1982

The Joint Venture: Ragged Mountain Area

The Joint Venture

Maine Geological Survey

Core Repository Data Files

Driller: The Joint Venture

Project: Ragged Mountain Area

Town(s): T9 R10 WELS

Contents:

1. Core Repository Intake Form(s)
2. Drill Hole Log(s)
3. Location Map(s)

Maine Geological Survey

CORE REPOSITORY

Township: T9 R10 WELS

Company: NE Joint Venture

CORES IN REPOSITORY:

Hole	Depth	Comments
910-6	24-103	Continuous
RM-7	10-205	continuous
Rmx-4	68.5-148	discontinuous
Rmx-5	50-67	continuous
Rmx-7	34-121	continuous

CHEVRON RESOURCES

Property Ragged Sec. ___ T 9 R 10 State Me. Drill Hole No. RAG 1 Sheet 1

Scale 1"= 10' Coord. N ___ E ___ Bearing S45E Dip -45 Collar Elev ___

Acid Test: Apparent Actual
375' 46° 40°
525' 45° 39°

Logged by CPW

Rock Type & Structures	Mineralization and Alteration	Hole Depth	SAMPLE % Rec.	SAMPLE Interval	SAMPLE Rec. ftg.	SAMPLE Number	ASSAY
Overburden Hole cased to 13'		10					
Argillite/Mudstone/Siltstone w/ semi to massive pyrite interbeds, shaley cleavage 50%	qz ± calcite vls (2-6/FT) some contorted few py streaks + clots (< 2 FT, < 4m)	20	60				
locally tuffaceous component Minor graphite throughout mudstone sequence EMS: contorted bedding + brecciation 27-29	right lateral microfold py	30	100				
35' 2" thick pale yel.-gn f.g. felsic tuff	35' dense qz. micro-stkwk + pervasive sericite 38-45± bedded strat.form pyrite beds (.5-2 cm) 90°/± py micro-folds sheared parallel to cleavage (~30° to core); pyrite clots broken into rotated rectangular fragments i.e.: clots probably fragments of contorted beds	40					38 45
lt. gray tuffaceous siltstone w/ abundant wisps/beds of pyrite		50					
51' small fold ~ 1" across limbs oriented as drawn	50% $CaCO_3$ veins 52-53' lam qz-calcite vn w/ radiating bk. vls (tbl?)						54
Pyritic vtal/lithic wacke 50% stringer, dissem and clastic pyrite in vtal/lithic wacke, ↑tops? 56.5'	40-60 % dissem and clastic sulfide (pyrite)	60	100				1 61
Argillite/Mudstone/Siltstone w/ minor tuffaceous interbeds and 2-4 % dissem pyrite generally contorted bedding + brecciation	10 % $CaCO_3$ veins often contorted	70					
	85' contorted calcite vl	80	100				
Tuff-wacke w/ lesser argillite interbeds, grading to felsic tuffs; strongly contorted bedding + autobrecciation	silic + lt. green chlorite ± sericite (?) Abundant calcite veins py 2-3%, contorted clots	90					93
lt. green felsite tuff w/ abundant qtz/calc veining		100					103

CHEVRON RESOURCES

Property Ragged Sec. ___ T ___ R ___ State ___ Drill Hole No. RAG 1 Sheet 2

Scale 1"= 10' Coord. N ___ E ___ Bearing ___ Dip ___ Collar Elev ___

Logged by CPW

Rock Type & Structures

100 lt. green felsite tuff.

Blk siliceous mudstone/argillite (possibly rhyolitic tuff?) massive texture, extreme hard

110 fine grained locally carbonaceous (graphite common on shears parallel to cleavage, py. concentrated with graphite together weakly to strongly conductive)

120

175' gy-blk mottled tuff w/ brx

130

Bleached felsite tuff white to lt. green/gray fine grained tuff; relict fsp microlites & 1mm qz eyes common; ~5% severe

140 brittle fracturing w/ sporadic frag. rotation;

145-146 relict blk bedded tuff/cherty argillite; bedding + cleavage ∠ ~50° to core axis

150

Same

160

Same

170

Same

180

190

Fine-grained, green-gray intermed to felsic tuff w/ abundant qtz-$CaCO_3$ veins and $CaCO_3$ vugs (?)

200

Mineralization and Alteration

qtz - chl veins

3-5% dissem pyrite + py bands (< 1cm, < 1/FT) + clots (contorted fragmented bands)

10% qtz veins

bk microstkwk + qz + fsp?

10% Talc (?) chl alt.

pervasive silicification w/ v. stkwk. qz microstkwk MnOx? soaks; microstkwk foliated sericite overprint sporadic, weak to moderate

py diss. < 1% (131-154)

2-3% (154-

FeOx + $CO_3^=$ wk-mod on fx (1-2/FT)

146' FeOx @ bedded py? 1-2cm, contorted w/ breccia in FeOx-$CO_3^=$ matrix

158' tectonic? bx tuff in FeOx - $CO_3^=$ matrix

2% dissem py. minor sericite + chlor. alt (?) + $CaCO_3$

Hole Depth	% Rec.	Interval	Rec. ftg.	Number	SAMPLE	ASSAY
100						
110	100					
120						
130						
140	90					
150						
160						
170						
180						
190						
200						

103 113 123 131 141 151 161 171 181 191 201

CHEVRON RESOURCES

Property Ragged Sec. ___ T ___ R ___ State ___ Drill Hole No. RAG 1 Sheet 3

Scale 1"= 10' Coord. N ___ E ___ Bearing ___ Dip ___ Collar Elev ___

Logged by CPW

Rock Type & Structures

200 Gray/green intermed to felsic tuff w/ 10-15% $CaCO_3$ minor clastic interbeds

210 ↓

220 Same

230 increasingly basaltic w/ dom $CaCO_3$ veins and d. amygdules(?) in basaltic units ? ? ? ? ? ?

240

250 tuff brecciated w/ silicified gy matrix

gy-gn int-felsic? tuff (blchd mafic?) sheared texture in healed autobxn?

260

gn-gy Int. mafic tuff, f.g. often brecciated w/ $CO_3^=$ matrix

270

280

290

gn-gy int-felsic? tuff (blchd mafic?) as 253-261; sheared texture in healed autobxn; + few

300 blchd f.g. mafic frags

Mineralization and Alteration

sericite + chlorite + $CaCO_3$ veins and vugs 2-4% disseminated py

some patchy silicification

↓

Same

?

251

sting silicification w/ 20-30% sericite wisps py as blebs, deformed layers + diss. 5-10% w/ $CO_3^=$

Basalts altered to chlorite/epidote w/ $CaCO_3$ veins abundant (spilitized?)

patchy silicification

273-275 py 10-15% as blebs + deformed layers

tuff is lt bn w/ gn selvages soaking out from dk chl-$CO_3^=$-py filled fx

massive sulfide (py) slurry-like (80%) → shallow-slope clastic/extrolith

stg silicification w/ 10-20% sericite wisps; mod-stg qz-$CO_3^=$ stkwk w/ wk MnOx soaking

295-297 py + po diss + layers 8-10%

297-320 py+po diss 2-3%

320-324 py+po diss + layers 15-20%

SAMPLE | ASSAY

Hole Depth	% Rec.	Interval	Rec. ftg.	Number
200	100%			
210				
220				
230	100%			
240				
250				
260	100%			
270				
280				
290				
300				

201 211 221 231 241 251 261 271 281 294.5 301

CHEVRON RESOURCES

Property Ragged Sec. ___ T ___ R ___ State ___ Drill Hole No. RAG-1 Sheet 4

Scale 1"= 10' Coord. N ___ E ___ Bearing ___ Dip ___ Collar Elev ___

Logged by

Rock Type & Structures	Mineralization and Alteration	Hole Depth	% Rec.	SAMPLE Interval	Rec. ftg.	Number	ASSAY
300 gn-gy int-felsic? tuff (blkd mafic?)	stng silicification w/ 10-20% sericite wisps stng qz-$CO_3^=$ stkwk w/ wk mn ox soaking 297-320 py+po diss 2-3%	310	100%				301 311 321 331
310 note: 1" thick f-m. g. tuff layer on top of bslt fines downward; but v.f.g. layers lie just uphole	qz-calcite vn 1.5" thick	320					
320 Tops ↓ by sed structure contact zone (Spilitized basalts?) qz/$CaCO_3$ veins in gray/green altered rk Epidotized	320-325 ↳ po + py in veins 15-20% of $CaCO_3$ veins Stratiform sulfide						
Footwall Basalts: Brecciated Pillow (?) basalts w/	3-5% po/py intergrown as veins/veinlets	330	100%				
330 altered rims on contacts Inter-pillow sed's common throughout section	in stockworkings - - - - - - - - - Alt: last epidote?+chl +calcite as matrix and veins/pillow rind	340					
340 Calcite veins are common as are $CaCO_3$ amygdules	alteration, etc. 1-2% dissem py	350	100%				
350 Same		360					
360 Same		370					
370 Same		380					
380 Same		390	100%				
390 Same		400					
400							

CHEVRON RESOURCES

Property Pugsley Sec. ____ T ____ R ____ State ____ Drill Hole No. PAS 1 Sheet 5

Scale 1"= 10' Coord. N ____ E ____ Bearing S45E Dip -45 Collar Elev ____

Logged by ____

Rock Type & Structures

400 Basalt: brecciated in chl/$CO_3^=$ matrix some pillow rinds likely

410 413-419 interflow bx in gn chl/$CO_3^=$ matrix

420

430

440

450 451-453 interflow tuff bxa laminated w/ $CO_3^=$ matrix

460 459-460 interflow tuff bx in bk matrix

470

480

490

500

Mineralization and Alteration

chl/$CO_3^=$/epidote? in matrix + vl + @ bslt espec. rinds on frags + pillows

452' po vein (2 cm.) (interpillow?)

4s

Inter-pillow py/po layer in inter flow tuff ~ 1 FT thick

SAMPLE ASSAY

Hole Depth	% Rec.	Interval	Rec. ftg.	Number
400	100 %			
410				
420				
430	100 %			
440				
450				
460	100 %			
470				
480				
490				
500				

Same to 525'

T.D 525'

CHEVRON RESOURCES

Property_____ Sec.____ T____ R____ State_____ Drill Hole No. RAG-1 Sheet 6

Scale 1"=____ Coord. N_____ E_____ Bearing_____ Dip____ Collar Elev_____

Logged by

Rock Type & Structures	Mineralization and Alteration	Hole Depth	SAMPLE % Rec.	SAMPLE Interval	SAMPLE Rec. ftg.	SAMPLE Number	ASSAY
500							
510							
520							
TD 525 FT							

CHEVRON RESOURCES

Property Ragged Mtn. Sec. ____ T 9 R 10 State Maine Drill Hole No. RM-2 Sheet 1

Scale 1"= 10' Coord. N ____ E ____ Bearing S41E Dip 45° Collar Elev ____

Acid Test: Apparent Actual
235' 44° 38°
500' 40° 34°

Logged by P. Rogers followed by E. Struthsacker

Rock Type & Structures	Mineralization and Alteration	Hole Depth	% Rec.	SAMPLE Interval	Rec. ftg.	Number	ASSAY
overburden				5/10	2'		
Grey-pale green, sil, feld-porph, Rhyolite sericite alt gives pale green color. Feldspars randomly dist. Sub-hedral - bleached white. Areas of dk. grey alt.? or mudstone in both fract and matrix. Gives core a mottled appearance.	Predom alt-ser. Mg chl. alt is spots? Trace scatt. diss. Py.	10		10/20	10'		
		20		20/30	10'		
		30		30/40	10'		
Intermixed, very fine grained, black-grey mudstone and fine grained, sil., light grey Tuff. Tuff-lt. grey - feld. xtls all qtz @ 45° Bedding in mudstones hard to detect. Easiest to see where S= present in bedding	Trace Py in bedding very fine grained	40		40/50	10'		
Mud Tiny broken feldspars visible in bedding.	truncated bedding	50		50/60	10'		
Tuff		60		60/70	10'		
Mud Tuff							
Sil. monolithic breccia w/ feld. rich Tuff and mud filling matrix around lt. grey alt. sil. frags	Pale green sericite as above - not as abd.	70		70/80	10'		
Tiny broken feld. in bedding.	Black alt.? in tuff. looks like mudstone but fills fract. Mg chl. ??	80		80/90	10'		
		90		90/100	10'		
mudstone - glass? at contact Lt grey-green feld. porph. Rhyolite Top 8' brecciated - Black glass? matrix to breccia. Black material which forms matrix of breccia appears same as material which fills fract. in more massive section down hole	Pale green sericite as above. less diamond. 99' 1/8" Py vein	100					

12
22
32
42
52
62
72
82
92
102

CHEVRON RESOURCES

Property Ragged Mtn. Sec. ____ T 9 R 10 State Maine Drill Hole No. RAG 2 Sheet 2

Scale 1"= 10' Coord. N ____ E ____ Bearing ____ Dip -45° Collar Elev ____

Logged by P. Rogers

Rock Type & Structures	Mineralization and Alteration	Hole Depth	% Rec.	SAMPLE Interval	SAMPLE Rec. ftg.	SAMPLE Number	ASSAY
Pale grey-green fold porph Rhyolite cont.	mod sericite			100/110	10'		
110 Rhyo looks much the same as in top of hole w/ less sericite and more black chl.? glass?	Zone of intense qtz + minor calcite veining	110		110/120	10'		
120 Scattered subhedral bleached feldspars.		120		120/130	10'		
130	127' qtz filled fract w/ Black - glass? chl? as selvage, ½', around fract.	150		130/140	10'		
140	Diss very fine grained py. Trace	140		140/150	10'		
150	Some scattered Trace coarser Py xlls splotchy black alt.	150		150/160	10'		
155'-180' Brecciated Rhyolite 160 Same as above - Rhyo frags 2"-3" - fold porph - pale green alt -		160		160/170	10'		
170	qtz vein + minor calcite no si.	170		170/180	10'		
180	Black alt forms matrix of Breccia	180		180/190	10'		
182'-190' Black sil slst/ mudstone - soft sed deformation - slumping fracturing of bedding random 45° to core axis EMS	Trace bedded fine gr. Py.	190		190/200	10'		
190 Lt. grey sil tuff Volcanic wacke Contains beds of black fr. gr. mudstone - mud fragments up to 2cm dia	rip-up: 1cm slst/arg† like 184-189 in H gy f-m.g. tuff	200		190/200	10'		
200 f.g. felsic lapilli tuff							

EMS - mostly homogeneous textured w/ possible relict hyaloclastic texture of lithic fragments & broken crystals in white matrix (possible devitrified glass) elongate frags + intergrain matrix elongate 30-60° to core axis, sporadic bedded tuffaceous sed layers occur

CHEVRON RESOURCES

Property Ragged Mtn. Sec. ____ T 9 R 10 State Maine Drill Hole No. RAG 2 Sheet 3

Scale 1"= 10' Coord. N ____ E ____ Bearing ____ Dip ____ Collar Elev ____

Logged by P. Rogers

Rock Type & Structures	Mineralization and Alteration	Hole Depth	SAMPLE % Rec.	SAMPLE Interval	SAMPLE Rec. ftg.	SAMPLE Number	ASSAY
Lt. grey sil Tuff and fg. lapilli tuff → Volcanic wacke EMS Contains fragments of light grey tuff(?) and	tops up?	210					
dk grey mudstone up to 1/2" dia. frags scattered, isolated and generally oriented w/ bedding..	Predom. min. Py in mottled - controlled beds sparse MnOx? on fx	220					220
some frags semi rounded but predom. jagged (volcanic?)	226 - 230 Py dis - on fx Py - beds 1/8"	230					230
		240					240
	246 - 256 Py on fx - dis Py bedded 1/8"	250					250
matrix darkens sporadically giving mottled look	Bedded 1/2" massive Py - Clastic - coarse Py - slurry	260					260
		270					270
	Py // to core axis 1/8"	280					280
	285 - Inclusion of dk siltstone (mudst?)	290					290
Lt. grey sil volcwacke cont. fg. lapilli tuff	1/8" Py deformed bed	300					300

CHEVRON RESOURCES

Property Russell Mtn Sec. ____ T 9 R 10 State Maine Drill Hole No. RAG 2 Sheet 4

Scale 1"= 10' Coord. N ____ E ____ Bearing ____ Dip 45° Collar Elev ____

Logged by RRogers

Rock Type & Structures	Mineralization and Alteration	Hole Depth	SAMPLE % Rec.	SAMPLE Interval	SAMPLE Rec. ftg.	SAMPLE Number	ASSAY
Lt grey sil Volc. wacke cont. ↑ f.g. lapilli tuff EMS	306' 2" mottled-bedded conductive Py semi massive						300
310 Volc. Wacke grades into Dk grey mudstone over 2' interval	10-20' fine gr. bedded & Py 311' pyritic chert bx 5cm	310					310
Dk. grey v. fn. gr. mudstone	5-10% Py - v.fn.gr. bedded						
320		320					320
	Zone of intense calcite veining						
330		330					330
340		340					340
	Trace - 5% bedded Py - v.fn. grained						
350	349'-1" qtz vein + calcite	350					350
c.g. muddy volcanic conglomerate							
Coarse dk. grey greywacke	Greywacke contains small massive Py clasts trace - 5%						
360		360					360
Well rounded fragments of lg/sz - chert 35, argl. 45, mafic 15 5≤5	- diss po						
some phyo frags sericitic silicified w/ polpy or fe + diss + Mn Ox or fx		370					
370 in 357-359; 383-384	372-375 calcite-py stockwork above 3cm calcite-qz vn						
373-377 argl ≫ clasts							
380		380					
390		390					
395 resinular bslt cobble							
400		400					

CHEVRON RESOURCES

Property_____ Sec.____ T____ R____ State_____ Drill Hole No._____ Sheet____

Scale 1"=_____ Coord. N_____ E_____ Bearing_____ Dip____ Collar Elev_____

Logged by

SAMPLE ASSAY

Rock Type & Structures

400 dk gy c.g. muddy vole conglomerate 30-40% subround to round clasts < 5 cm, siltst 30% argH/slst 25%, mafics 15%, ss 5% matrix f.g. bk lam argH

410 same vole frags have 5-10 diss + fx 5°

420 bk f.g. lam argillite w/ gy siltstone interbeds

424.5' f.g. sandy tuff scours argH ⇒ + 2 cm clay clasts @ 20° diss py ↑ top downhole

430 dk gy c-g. pebble wacke in bk lam argH matrix

~35' scour marks

440

450

460 bk f.g. lam argH

[illegible] f.g. wacke + bk lam argH

470 bk f.g. lam argH

gy f.-m.g. graywacke w/ bk lam argH

480 lam argH interbeds (<6" thick, < 30% vol.) some layer w/ c.g. clasts sed clasts > vole clasts

490 base of wacke cycle fines downhole

base of wacke cycle

500 fines downhole

Mineralization and Alteration

400 po 2-3% diss. fam qtz v/ 45-90° to bedding

410

420 po 5-8% deformed layers (< 1 cm) + diss

430 po 2-3 diss

440

450

460 10-15 lam po

po 2-5 [illegible] diss

470 2-10 lam + deformed po

po 2-3 diss

480

490

500

Hole Depth	% Rec.	Interval	Rec. ftg.	Number
400				
410				
420				
430				
440				
450				
460				
470				
480				
490				
500				

Box 44 418-427 dropped + restored

Box 45 427- dropped restored

Box 4 455- 465 dropp + restor

CHEVRON RESOURCES

Property_____ Sec.____ T____ R____ State_____ Drill Hole No._____ Sheet____

Scale 1"=____ Coord. N_____ E_____ Bearing_____ Dip____ Collar Elev_____

Logged by

Rock Type & Structures	Mineralization and Alteration	Hole Depth	SAMPLE % Rec.	SAMPLE Interval	SAMPLE Rec. ftg.	SAMPLE Number	ASSAY
500 gy f.-m.g. graywacke w/ ck f.g. lam argt interbeds + lesser c.g. wacke		500					
base of wacke cycle							
510 finer downhole		510					
TD 515 FT							

J.S. Cummings Inc.

LITHOLOGIC LOG

ct Ragged Mtn. *Hole no.* RM-1 *Dip* 45° *Started* 6/18/79 *Elev.* ____

o. 272 *Township* T9-R10 *Coord.* 2000W 3600N *Direction* 21° *Completed* 7/5/79

	Lithotype
	Overburden
C-3	Gritty Tuff -
E-1	Siliceous Mudstone - Grey to black, no distinct layering. Graphitic particularly evident along fracture planes, thin veins of pyrite.
	Bottom of Hole

400'
450'
500'
550'
600'
650'
700'
750'
800'

Lithotype

Dark green, a few of the fragments are mudstone, particularly near top 10' to 22', compositionally equivalent to an andesite-dacite, small amount of disseminated pyrite.

C. Woodard
Feb., 1982

RE-EVALUATION

RM-1

10 - 32 - gritty felsic tuff, layered, weakly welded gritty felsic tuff, contains abundant angular feldspars and qtz crystals and ~10-15% rock frags, sericitic alteration of micro matrix and angular feldspars, binoc done at 24'

32 - 74 - black siliceous siltstone, drill log says siliceous mudstone, no core in office

J.S. Cummings Inc.

SULPHIDE LOG

Ragged Mtn. Hole no. RM-1 Dip 45° Started 6/18/79 Elev. ____

no. 272 Township T9-R10 Coord. 2000W 3600N Direction 21° Completed 7/5/79

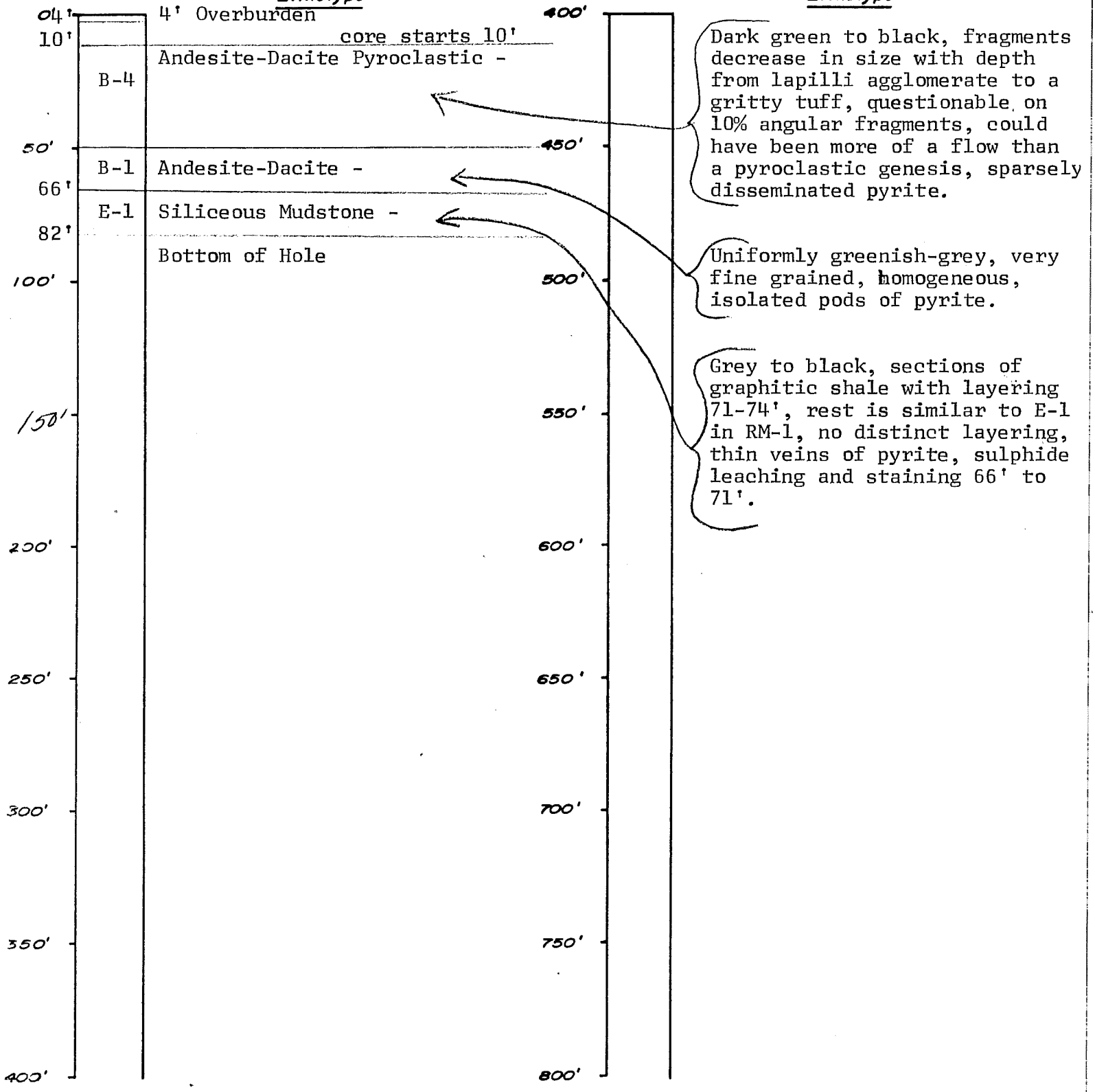
FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	32	22'	≥1%		
32	74	42'	1-2%		

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Ragged Mtn. Hole no. RM-2 Dip Vert. Started 7/5/79 Elev. ____

Job no. 272 Township T9-R10 Coord. 1983W 3748N Direction ____ Completed 7/6/79



C. Woodard
Feb., 1982

RE-EVALUATION

RM-2

10 - 50	-	fractured basalt, drill log says andesite-dacite pyroclastic, core is too mafic and soft to be an andesite or dacite, core contains abundant fractures, breaking core into lapilli sized angular basalt pieces, fractures are filled with thin chlorite veins, core at 16' and 33' is more broken up, giving core a brecciated appearance, core at 48' is much less fractured and more massive in appearance, binoc done at 16', examined core at 16', 33', and 48'
50 - 66	-	basalt, lighter colored and finer grained than the above, too soft and mafic to be an andesite or dacite, core at 58' is only weakly fractured with minor chlorite and calcite filling fractures, examined core at 58', no binoc
66 - 82	-	siliceous siltstone, probably tuffaceous, fine, but visibly layered grains producing megascopically banded texture, core is siliceous, and weakly fractured and contains minor pyrite pods and 1-2% pyrite blebs, non-graphitic, examined core at 80', no binoc

J.S. Cummings Inc.

SULPHIDE LOG

Project Ragged Mtn. Hole no. RM-2 Dip Vert. Started 7/5/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 1983W 3748N Direction _____ Completed 7/6/79

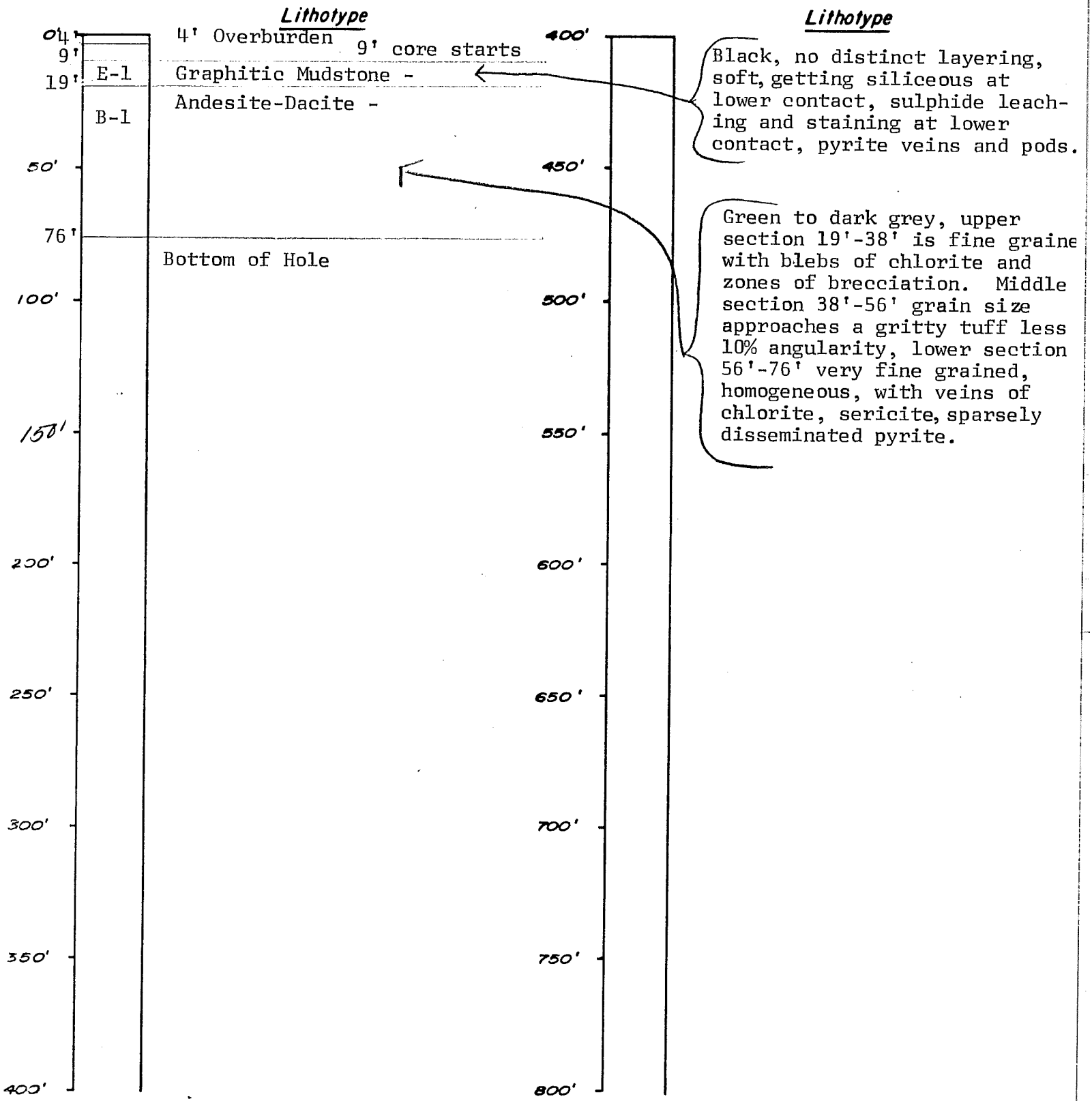
FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	66	56'	≤1%		small amt of Chlorite
66	71	5'	2-3%		
71	82	11'	1-2%		

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Ragged Mtn. Hole no. RM-3 Dip Vert. Started 7/6/79 Elev. ____

Job no. 272 Township T9-R10 Coord. 1972W 3855N Direction ____ Completed 7/7/79



C. Woodard
Feb., 1982

RE-EVALUATION

RM-3

9 - 19 - graphitic siliceous siltstone, core at 11' is black, fine grained, layered, and siliceous, may also be weakly tuffaceous as minor fine angular qtz crystals and feldspar grains are visible in matrix, core has abundant qtz filled very thin veinlets, 2-5% pyrite, very finely disseminated throughout, but heavily concentrated in some layers, assay says 7.06% S from 12-17', examined core at 11', no binoc

19 - 76 - basalt, drill log says andesite-dacite, core at 43' is too soft and contains too many mafic minerals to be an andesite or dacite, drill log notes zones of brecciation between 19' and 38'

J.S. Cummings Inc.

SULPHIDE LOG

Project Ragged Mtn. Hole no. RM-3 Dip Vert. Started 7/6/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 1972W 3855N Direction _____ Completed 7/7/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
9	16	7'	1-2%		
16	20	4'	2-3%		
20	76	56'	≤1%		some chlorite alteration

J. S. Cummings, Inc.

DDH RM-3 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
12 - 17	None	.006				7.06

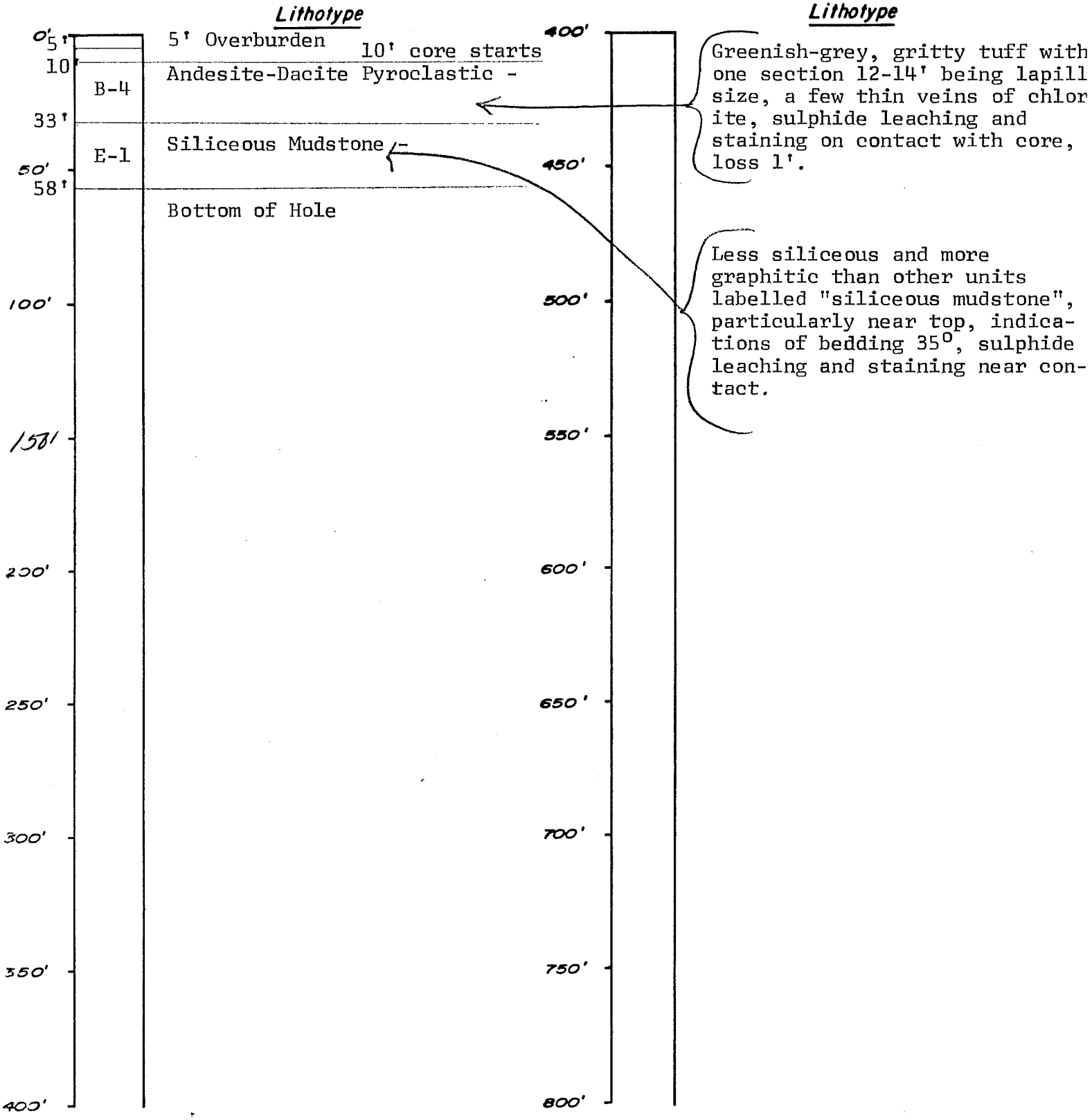
Length of Hole: 76 feet

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Ragged Mtn. Hole no. RM-4 Dip Vert. Started 7/7/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 1970W 3964N Direction _____ Completed 7/8/79



C. Woodard
Feb., 1982

RE-EVALUATION

RM-4

10 - 33 - weakly fractured basalt-andesite, core at 13' and 29' is fine grained, massive and weakly fractured with some chlorite plus oxide staining along fractures, drill log says "andesite-dacite pyroclastic", core pieces in office (13', 16' and 29') lack pyroclastic or brecciated textures, core at 13' and 29' is too soft and contains too many mafic minerals to be anything more siliceous than basalt, core at 16' is andesite-(porphyry?) - see binoc, core examined at 13', 16', and 29' with binoc at 16'

NOTE: RM-2, 3, and 4 basalt core is very similar (fine grained, fairly soft, massive, grey color megascopically, plagioclase as dominant mineral, much lesser mafic minerals, most of the core is weakly to moderately fractured, non-magnetic)

33 - 58 - graphitic siliceous siltstone, well layered and banded looking, hard and graphitic, may be weakly tuffaceous as core at 44' contains minor fine white visible feldspar and/or qtz crystals, see binoc at 44'

J.S. Cummings Inc.

SULPHIDE LOG

Project Ragged Mtn. Hole no. RM-4 Dip Vert. Started 7/7/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 1970W 3964N Direction _____ Completed 7/8/79

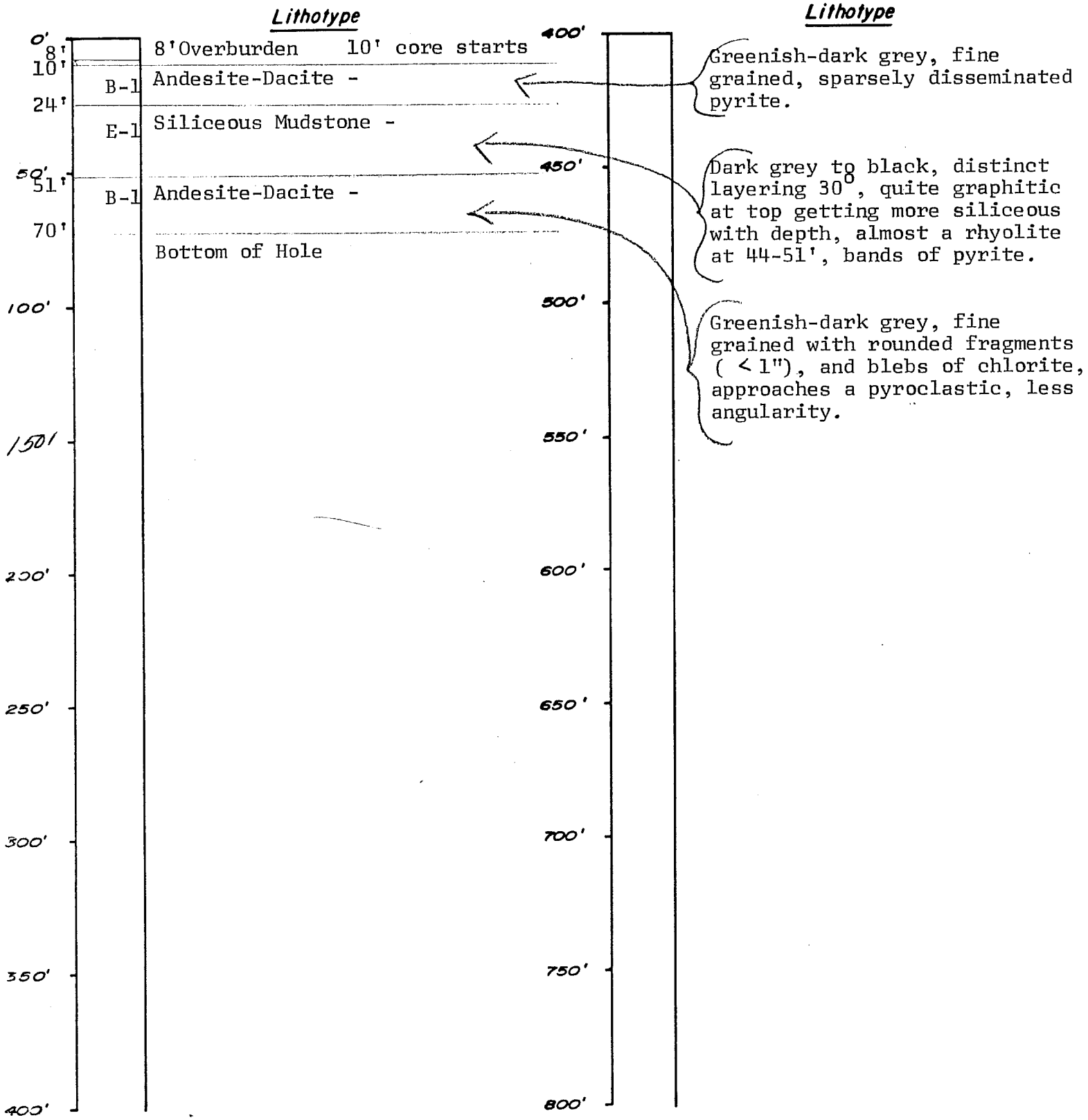
FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	29	19'	≤1%		
29	58	29'	1-2%		

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Ragged Mtn. Hole no. RM-5 Dip Vert. Started 7/8/79 Elev. ____

Job no. 272 Township T9-R10 Coord. 1946W 4062N Direction ____ Completed 7/9/79



C. Woodard
Feb., 1982

RE-EVALUATION

RM-5

10 - 24 - basalt, drill log says andesite-dacite, core at 13' is basalt, similar but slightly greener megascopically than other RM basalt core plus slightly harder, examined core at 13', no binoc

24 - 51 - (locally) graphitic siliceous siltstone, much like other siliceous RM units, grey, siliceous and layered grains, locally graphitic, may be weakly tuffaceous with minor visible angular qtz crystals, drill log says quite graphitic at top getting more siliceous towards bottom, core at 35' shows some real good pyrite bands (3-5% total pyrite?), examined core at 35' and 48', no binocs

51 - 70 - (weakly to more highly) fractured basalt, same type basalt as most RM basalt units, core at 67' is weakly fractured with calcite and chlorite along fractures, core at 58' is more highly fractured (possibly brecciated?) and shows a few basalt frags within the dk. chlorite fracture fill, core examined at 58' and 67', binoc at 58'

J.S. Cummings Inc.

SULPHIDE LOG

Project Ragged Mtn. Hole no. RM-5 Dip Vert. Started 7/8/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 1846W 4062N Direction _____ Completed 7/9/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	24	14'	< 1%		
24	51	27'	1-2%		
51	70	19'	≤ 1%		some chlorite

J. S. Cummings, Inc.

DDH RM-5 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
36 - 41	.10	.012				6.94

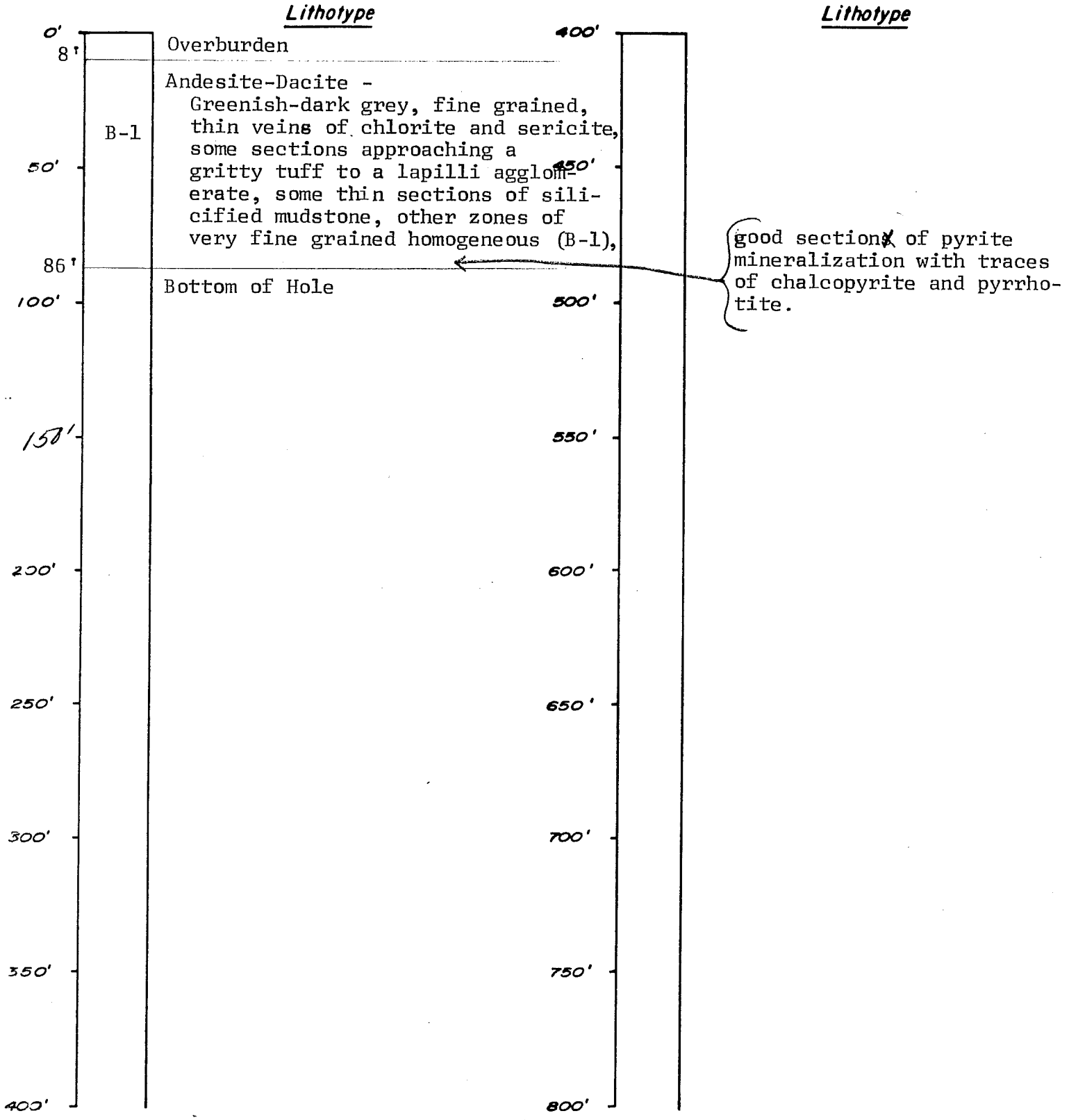
Length of Hole: 70 feet

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Ragged Mtn. Hole no. RM-6 Dip Vert. Started 7/9/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 4176N 1905W Direction _____ Completed 7/10/79



C. Woodard
Feb., 1982

RE-EVALUATION

RM-6

(weakly to highly) fractured basalt with minor dacite lapilli sections, core at 12' and 44' is weakly fractured basalt, overall a greenish-grey in color (much like RM-5 at 13'), core at 44' is very similar to that at 12' only at 44' core is much softer and altered looking, (grain boundaries fuzzy), core at 68' is probably a calcareous basalt (see binoc), drill log says some sections approaching a gritty tuff to lapilli agglomerate, lapilli agglomerate referred to in log are probably short sections of dacite lapilli fragments as contained in core at 77', (see binoc), examined core at 12', 44', 68', and 77', binocs at 12', 68', and 77'

J.S. Cummings Inc.

SULPHIDE LOG

Project Ragged Mtn. Hole no. RM-6 Dip Vert. Started 7/9/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 4176N 1905W Direction _____ Completed 7/10/79

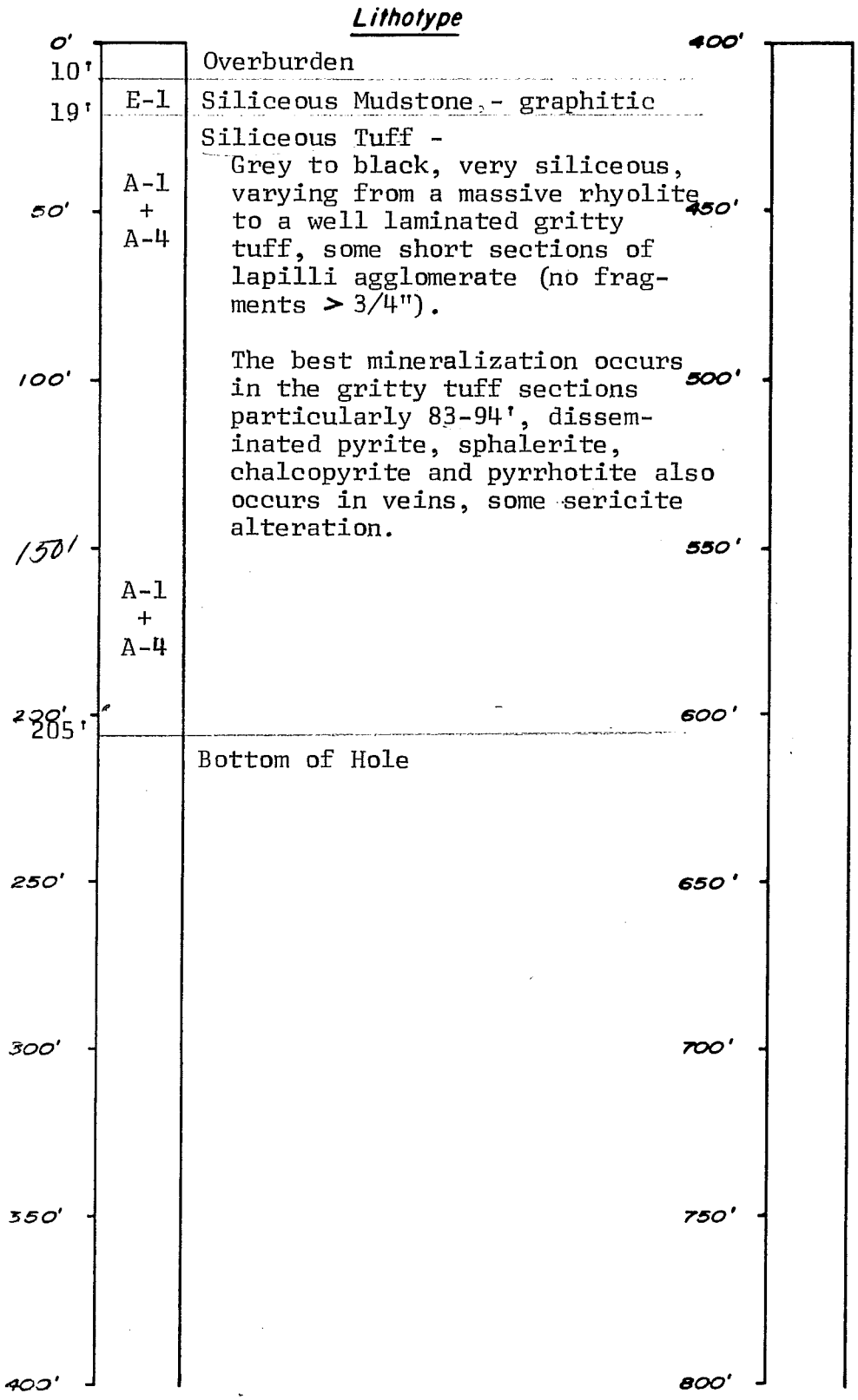
FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	60	50'	≤1%		some chlorite
60	73	13'	3-5%	Tr Cu	some chlorite
73	86	13'	≤1%		some chlorite

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Ragged Mtn. Hole no. RM-7 Dip 45° Started 7/10/79 Elev. ____

Job no. 272 Township T9-R10 Coord. 3985N 1900W Direction 111° Completed 7/18/79



C. Woodard
Feb., 1982

RE-EVALUATION

RM-7

10 - 19 - graphitic siliceous siltstone, no sample in office but from TCW's description and drill log, this is probably a siliceous siltstone

19 -200 - in drill log the section from 19-200' is called a siliceous tuff, but this should instead be broken down into 3 different lithologic zones

(A) 19 - 83, tuffaceous siliceous siltstone, core at 35' and 67' is too granular or sugary textured to be a siliceous tuff as indicated in log, core is fine grained, layered, sugary, or granular, and somewhat megascopically banded, contains minor fine white disseminated kaolin specks plus some fine visible qtz and feldspar crystals, no graphite, binocs done at 35' and 67'

(B) 83 - 94, felsic lithic tuff with 2-5% sulphide, this section includes good pyrite, pyrrhotite, $\leq$1% sphalerite and trace chalcopyrite mineralization, assays done from 83-93' indicate best mineralization is from 89.8-91.8', 3.33% S, 1.40% Zn, .025 Cu; the tuff consists of sub-rounded to rounded grit and small lapilli sized all grey felsic volcanic rock frags, (welded tuff or rhyolite?), in a black chlorite-sericite matrix

(C) 94 -200, layered and welded granular felsic tuff, megascopically banded light (almost white) and darker grey layers, darker layers contain fine equa-granular weakly welded grains, probably somewhat waterlain as they still have a somewhat sugary texture, light colored layers (see core at 144') are coarser grained and clearly more pyroclastic in nature, grains are equa-granular but much more welded than darker layers, light layers are welded (granular) felsic tuff and dark layers are weakly welded fine granular felsic tuff, binocs done at 123' and 144'

J.S. Cummings Inc.

SULPHIDE LOG

Project Ragged Mtn. Hole no. RM-7 Dip 45° Started 7/10/79 Elev. _____

Job no. 272 Township T9-R10 Coord. 3985N 1900W Direction 111° Completed 7/18/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	19	9'	2-3%		
19	38	19'	1-2%		
38	62	24'	trace		
62	83	21'	2-3%	tr zn	
83	88.5	5.5'	5-7%	.5-.7% Zn, .1-.2% Cu	some sericite
88.5	94	5.5'	10-12%	1.3-1.5% Zn, .3-.5% Cu	some sericite
94	98	4'	2-5%	tr zn, tr cu	
98	104	6'	1-2%		
104	187	83'	trace		
187	194	7'	1-2%		
194	205	11'	2-3%	tr zn	

J. S. Cummings, Inc.

DDH RM-7 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
83.0 - 85.8	.70	.006		.3	None	1.47
85.8 - 87.8	Trace	.006		None	None	1.47
87.8 - 89.8	.20	.012		None	None	1.43
89.8 - 91.8	1.40	.025		None	None	3.33
91.8 - 93.8	Trace	.012		None	None	1.62

3.7% S

8.8' of 4% S + .6

1.88 S
0.6 Zn
8.8 ft

Length of Hole: 205 feet

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Ext. Hole no. RMX-1 Dip -45° Started 11/10/80 Elev. ____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156° Completed 11/11/80

See Sketch
SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0'

Overburden

24'

Massive Rhyolitic Welded Tuff - light grey colored, very fine grained, not layered, fragments very hard to see, hard to distinguish from one another, minor chloritized fragments.

50'

56'

Felsic Pyroclastic - Mostly same as above but in sections fragments are coarser sized but still appear to be welded together, quartz fragments visible.

99'

100'

Bottom of hole

150'

200'

250'

300'

350'

400'

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-1

24 - 99 - Welded felsic tuff with felsic gritty lapilli frags

examined core at 45'-66' and 79', welded felsic tuff matrix containing, varying from minor (at 45') to abundant, white and grey wispy looking welded felsic volcanic frags, mostly grit sized and some lapilli, only very weakly altered with sericite-chlorite, frags become coarser and more abundant nearer bottom of core (see log), core is weakly layered, binocs done at 45', 66' and 79'

J.S. Cummings Inc.

SULPHIDE LOG

C. Mattson

Project Ragged Mtn. Ext. Hole no. RMX-1 Dip -45° Started 11/10/80 Elev. ____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156° Completed 11/11/80

NW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
24'	99'	75'	1%	Py	Minor Chlorite
	Bottom	of hole			

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Ragged Mtn. Ext. Hole no. RMX-2 Dip -45° Started 11/11/80 Elev. ____

2 Township T9-R10 Coord. 272-8 Direction 156° Completed 11/12/80

See Sketch

SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype	
Overburden	
Fractured & Brecciated Basalt - dark grey broken basalt with fractures filled with calcite, in places highly brecciated. Fragments range from .1" to >2" in size, minor chloritized sections of basalt near calcite veins, in last 4' of core are two minor tuffaceous sections both <6" but showing layers ±60° to core axis, highly calcareous matrix with chloritized fragments and felsic fragments.	
tom of hole	

Probably Andesitic

TCW, CW

RE-EVALUATION

D. Coles
February, 1982

RMX-2 (109'-113')

limey tuff with felsic and chloritized mafic grit in a calcite matrix with minor chlorite, locally layered with layers near 60° to the core axis, some lapilli sized fragments are present, very calcareous unit

TCW - sample at 111' - calcite-pyrite vein with pyritic altered dacite fragment

sample at 112' - 1" of laminated calcite, trace sericite and qtz with altered dacitic grit (ser/chl) and 1" of calcite/pyrite

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Ext. Hole no. RMX-2 Dip -45° Started 11/11/80 Elev. _____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156° Completed 11/12/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
38'	48'	10'	1%	Py & Po	Cal. & Chl.
48'	50'	2'	2% - 3%	Py	Calcite
50'	109'	59'	1%	Py & Po	Cal. & Chl.
109'	113'	4'	5% - 7%	Py	Cal. & Chl.
	Bottom of hole				

J. S. Cummings, Inc.

DDH RMX-2 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide
109 - 113	4'	Trace	None		0.1	None	19.2

Bottom of Hole: 113'

J.S. Cummings Inc.

C. Mattson

TCW

LITHOLOGIC LOG

Project Ragged Mtn. Ext. Hole no. RMX-3 Dip -45° Started 11/18/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156° Completed 11/20/80

See Sketch
SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0' Overburden

34' Siliceous Crystal Tuff or Quartz Exhalite - felsic fragments, layers ±30° to core axis, siliceous, can't be scratched.

36' Andesite-Dacite -
grey, fine grained, minor chloritized sections,
50'
65' 36'-65' - fractured and brecciated by calcareous veins, looks similar to RMX-2
65'-142'- same but more massive, veins here are mostly siliceous

100' sections are magnetic, minor pyrrhotite blebs throughout, minor fragmented sections visible

142' Mixed Rhyolite and Felsic Tuff - tuffs contain rhyolite, quartz, and other
150' felsic fragments, not layered, some fragments sericitized and some of matrix chloritized, minor lapilli sized fragments, rhyolites, lesser unit, light grey colored, thin bands only

182' Bottom of hole

200'

250'

300'

350'

400'

Acid Test

Depth	Apparent ∠	Actual ∠
180'	52°	46°

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-3

34 - 36 - Layered welded felsic tuff

core at 35' has alternating layers of greenish-grey welded felsic tuff and dark grey fine welded felsic tuff, core is very hard with no sericitic alteration, but does contain 2-4% pyrite distributed along layers, binoc done at 35'

36 - 142 - log okay

36 - 65 - grey grecciated dacite (or andesite?) with calcareous matrix (light colored and hard enough to be dacite - binoc at 55')

65 - 142 - dacite - non-brecciated, somewhat fractured, (dacite - see binoc at 126')

142 - 182 - mixed rhyolite and felsic tuff with weakly altered felsic lapilli fragments (felsic tuffaceous lapilli fragmental?)

core at 172' dominantly of felsic lapilli fragments up to 2.5" in size, most frags have some chlorite and sericite alteration, matrix is welded felsic tuff with minor sericite and chlorite alteration, drill log indicates only minor lapilli sized frags are contained from 142'-182' and core contains thin rhyolite bands, binoc done at 172'

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Ext. Hole no. RMX-3 Dip -45° Started 11/18/80 Elev. _____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156° Completed 11/20/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
34'	36'	2'	3%	Po & Py	
36'	182'	146'	1% - 2%	Mostly Po but minor Py	Minor Chlorite
	Bottom	of hole			

J. S. Cummings, Inc.

DDH RMX-3 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide
34 - 36	2'	Trace	None		0.4	0.020	1.8

Bottom of Hole: 182'

J.S. Cummings Inc. C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-4 Dip -45° Started 11/20/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156°Mag See Sketch Completed 11/21/80

SW 1/4 - Roads S & W of RAgged Mtn.

Lithotype

0'

Overburden

48'

50'

Light and dark grey sediment, well layered, layers 20°-30° to core axis, light grey layers generally calcareous with visible fragments that are also calcareous. Dark grey layers contain minor graphite and do not fizz. Minor calcareous veins. Many weathered sections throughout hole, probably water courses.

100'

148'

150'

Bottom of Hole

200'

250'

300'

350'

400'

Lithotype

400'

450'

500'

550'

600'

650'

700'

750'

800'

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-4

highly calcareous layered siltstone, drill log says lt. and dk. grey sediment, examined core at 94', no binoc

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-4 Dip -45° Started 11/20/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. See Sketch 272-8 Direction 156° mag Completed 11/21/80
SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
48'	148'	100'	Trace		
	Bottom of hole				

J.S. Cummings Inc. C. Mattson

LITHOLOGIC LOG

Ragged Mtn. Extension Hole no. RMX-5 Dip -45° Started 11/22/80 Elev. ____

See Sketch
2.2 Township T9-R10 Coord. 272-8 Direction 156° Mag. Completed 11/23/80
SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype	
Overburden	
Boulders	
Greywacke or Gritty Tuffaceous Sediment - Mostly fine grained sediment, grey-green colored with black mottling scattered throughout. Layers when visible are ±20° to core axis, most very soft and powder feels very talcy, possibly sericite. Minor felsic units at top of hole (fractured rhyolite < 6" and possibly a fractured dacite at 66'). Minor variations throughout the hole.	
Bottom of Hole	

NOTE: sample at 99' is a gritty tuff and I. Carlson describes a sample at 87' as a felsic tuff.

TCW

50'

400'

J.S. Cummings Inc.

D. Coles
Feb., 1982

LITHOLOGIC LOG

RMX-5 Re-Evaluation Hole no. _____ Dip _____ Started _____ Elev. _____

_____ Township _____ Coord. _____ Direction _____ Completed _____

Lithotype

Overburden

Entire hole is felsic tuff, fine grained to very fine grained, grey-green color with some darker sections. The matrix is clear and siliceous looking, hard to just scratched fine ash is seen floating in it. The grit is feldspar and quartz with minor hard black siliceous grit and some soft chloritic grit. At 63' is a 6" section of cracked rhyolite or welded tuff with Mn staining in the cracks.
141'-147.5' - very fine grained felsic tuff, soft, greasy feel, sericitic?.

Bottom of Hole

Layers .05" thick to 3"+?

Depth	Angle to Core Axis
51'	25°
68'	18°
77'	18°
85'	20°
100'	35°
107'	20°
137'	5°
147'	25°

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-5

altered felsic tuff?,

sample at 99', is altered felsic tuff (TCW says gritty tuff) and IK Carlson describes sample at 87' as welded felsic tuff, drill log says greywacke or gritty tuffaceous sediment with minor felsic units at top of hole, not enough info from drill log or core in office to tell if drill hole is altered felsic tuff, binoc done at 99'

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-5 Dip -45° Started 11/22/80 Elev. _____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 156° Mag Completed 11/23/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
57'	150'	93'	Trace		Sericite
	Bottom of Hole				

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-6 Dip -45° Started 11/24/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 11/25/80

See Sketch
SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0'

Overburden

40'

Felsic Gritty Tuff and Rhyolite -tuffs are felsic with qtz being the dominant fragment. Layers ±60° to core axis. Rhyolites massive and interlayered with tuffs. Tuffs show chlorite and sericite alteration.

50'

58'

Felsic Gritty Lapilli Frag.-felsic frags, quartz, rhyolite, tuffs, and other felsic fragments. Not well layered but a lineation of fragments visible, about the same as above. More altered than above tuffs, chloritized and sericitized fragments and wisps of sericite and chlorite around fragments.

94'

100'

Felsic Gritty Tuff and Rhyolite -
Same as 40'-58', minor rhyolite interlayered with tuffs.

140'

150'

Bottom of Hole

200'

NOTE: Sample at 59' shows several fragments of laminated CL type sericite exhalite.

TCW

250'

300'

350'

400'

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-6

40 - 58	-	no sample in office, drill log says: felsic gritty tuff with interlayered massive rhyolite
58 - 94	-	felsic tuffaceous lapilli fragmental, sample at 59' contains abundant angular grit and lapilli sized altered volcanic rock fragments, welded and weakly layered into an altered felsic tuff matrix, total alteration about 25-30% sericite and chlorite, no visible grit, binoc done at 59'
94 - 140	-	weakly calcareous felsic gritty tuff, sample at 107' is weakly calcareous and very weakly altered with only minor grit, sample at 133' is altered (25-30% chl/ser alteration) and contains quite abundant black soft shaley grit; Note: drill log says minor rhyolite interlayered with felsic tuffs, rhyolites could actually be fine welded felsic tuffs (see sample at 125'), binoc done at 107', 125', and 133'

RE-EVALUATION

D. Coles
February, 1982

RMX-6

wispy chlorite and some sericite are found in the matrix of the felsic gritty lapilli fragmental, all CL-type sericite exhalites are found in this unit between 58' and 94'

61.5'	.2" X .3"	frag	ser/chl	good layers
64.2'	.8" X .3"	frag	ser/chl	layered
67.5'	.3" X .2"	frag	qtz/chl	poor layers
71.6'	.2" X .2"	frag	ser/chl/qtz	good layers
91.8'	1.2" X .3"	frag	ser/chl	poor layers

Fragments in this fragmental are elongated. It is possible that there are other CL-type exhalite fragments which appear to be part of the matrix.

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-6 Dip -45° Started 11/24/80 Elev. _____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 11/25/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
40'	58'	18'	<1%		Chlor. & Ser.
58'	94'	36'	Trace		Chlor. & Ser.
94'	137'	43'	<1%		Chlor. & Ser.
137'	140'	3'	1%		Chlor. & Ser.
	Bottom of Hole				

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-7 Dip -45° Started 12/1/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag. Completed 12/2/80

See Sketch

SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0'

Overburden

34'

Basalt -
Fine grained, massive, chlorite alteration of grains and along fractures, magnetic throughout, under binoc visible grains of magnetite.

50'

100'

121'

Bottom of Hole

150'

200'

250'

300'

350'

400'

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-7

drill log okay - basalt,

(weakly calcareous, magnetic basalt, plag, sericitically altered > 10%), examined RMX-7 at 85', no binoc

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-7 Dip -45° Started 12/1/80 Elev.

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag See Sketch Completed 12/2/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
34'	121'	87'	< 1%		Chlorite
	Bottom of Hole				

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-8 Dip -45° Started 12/1/80 Elev. ____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 12/7/80

SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0' — Overburden

40' — Gritty Felsic Tuff, Volcanic Sediment, and Rhyolite -
Tuffs - generally fine grained, light grey colored, fragments of quartz and other felsic fragments show parallel elongation in places, ± 60° to core axis. Minor sericite alteration in matrix (under binoc), occassional chlorite grains.
Volcanic Sediment - fine grained, thinly bedded, dark grey to light grey colore Layers ± 60° to core axis. Sections cherty or siliceous. Minor graphite, especially toward lower contact.
Minor Rhyolite - massive, light grey colored, interlayered with tuffs.

129' — Black Graphitic Silicified Mudstone -
Very black, well layered (60°-70° to core axis), thin bands of pyrite in layers
Graphite heavy on fractures.

156' — Basalt - fine grained, massive, minor calcite amygdules, minor chlorite.

167' — Black Silicified Mudstone - same as 129'-156'.

174' — Basalt - same as 156'-167'.

182' — Black Silicified Mudstone - same as above units.

186' — Gritty Felsic Tuff - *

196' — Black Silicified Mudstone - same as upper units,
210'-212' - high concentration of thin pyrite layers, ± 60° to core axis.

224' — Basalt - similar to RMX-7, fine grained, massive, minor chlorite.

242' — Basalt Agglomerate - **

267' — Basalt -
fine grained, massive, minor chlorite, no carbonate amygdules, similar to RMx-

297' — Bottom of Hole

Acid Test		
Depth	Apparent	Actual
200'	51°	45°

* Gritty Felsic Tuff - minor lapilli fragments, first 1' looks very simila to mineralized tuff in RM drilling, similar alteration, elongation of fragments, and types of fragments, few flecks sph. visible.

** Basalt Agglomerate - large basalt fragments > 3" mixed with smaller fragme <1" of chloritized basalt, felsic fragments of rhyolite and dacite, 1 pyrite clasts (possibly only blebs), some black mudstone as well, chlorite alteration and pyrite stringers in places.

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-8

40 - 129 - gritty felsic tuff, volcanic sediment (layered lithic tuff?), and rhyolite

weakly gritty altered felsic tuff, sample at 58' of layered qtz and sericite (15-20% sericitic alteration?), matrix containing minor grit sized siliceous rounded fragments layered into matrix, IK Carlson describes sample at 56' similarly,

volcanic sediment referred to in log may be layered lithic tuff, layered all grey siliceous rock fragments in a sericite-qtz matrix, (sample at 76'), drill log indicates minor rhyolite interlayered with tuffs, binocs done at 58' and 76'

129 - 156 - black siltstone, (qtz-sericite, minor biotite, too coarse grained and hard for shale and non-fissile), drill log says "black graphitic silicified mudstone", no binoc, examined core at 146'

156 - 167 - amygdaloidal basalt (7-10% amygdules), core at 163' is amygdaloidal (calcite and chlorite), weakly calcareous and contains (15-20%?) sericite-chlorite alteration of groundmass (olive green and grey, very soft, altered plag grains), no binoc but examined core at 163'

Interlayered black siltstone and basalt from 129' - bottom (see log) except for:

1) 186 - 196 - gritty felsic tuff, layered, and contains 3-5% black grit, some sericitic alteration, drill log indicates minor lapilli fragments, binoc done at 191'

2) 242 - 267 - (proximal?) agglomerate, dominated by lapilli sized dacite or andesite frags with varying degrees of chlorite-sericite-sulphide alteration, contains also lesser other volcanic rock frags and some chert and black siltstone frags, all frags are contained in a highly chloritic matrix, total alteration $>$ 20%, binoc done at 265'

RE-EVALUATION

D. Coles
February, 1982

RMX-8 (242'-267')

matrix	chlorite	±6%	
	pyrite	2%	
	calcite	2%	
	rhyolite frags	5%	sub-angular
	dacite frags	2%	sub-angular
	and./basalt	5%	sub-angular
	basalt	78%	sub-angular

Most massive pyrite appears to be blebs. They generally are found in veinlike clumps as part of the matrix. They tend to be irregular shaped and commonly have defuse boundaries. Some dacite and basalt fragments have pyrite rinds on them. One dacite fragment at 253' is now 2/3 pyrite suggesting that pyrite may have been replacing? the material in some fragments. 60% of the sulphide is in blebs.

A small fraction (5%) of the massive pyrite may be clasts. These are generally isolated rounded shapes from the blebs of pyrite. They have distinct boundaries and appear to be finer grained.

Pyrrhotite blebs are seen locally. Fine grained Po is seen throughout this rock unit.

Sulphide-60% in blebs, 5% clasts?, 35% veins and fine grained Po and Py

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-8 Dip -45° Started 12/1/80 Elev.

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 12/7/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
40'	129'	89'	1%	Py & Po	Minor Chl & Ser.
129'	132'	3'	±3%	Py	Graphite
132'	167'	35'	1%	Py & Po	Chlorite
167'	174'	7'	2%-3%	Py & Po	Graphite
174'	186'	12'	1%	Py & Po	Chl. and Graphite
186'	196'	10'	2%-3%	Py & few specks sph.	Chlorite
196'	210'	14'	1%-2%	Py & Po	Graphite
210'	212'	2'	10%-15%	Py & Po	Graphite
212'	224'	12'	2%-3%	Py & Po	Graphite
224'	242'	18'	1%	Py & Po	Chlorite
242'	267'	25'	±3%	Py & Po, few flecks chpy	Chlorite
267'	297'	30'	1%	Py & Po	Chlorite
	Bottom of Hole				

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

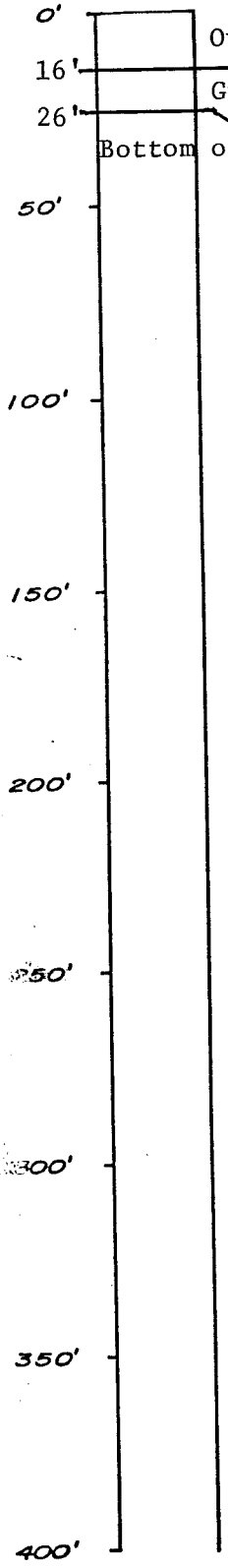
Project Ragged Mtn. Extension Hole no. RMX-9 Dip -45° Started 12/8/80 Elev. ____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag. Completed 12/8/80

SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype



0' – 16': Overburden

16' – 26': Grey-Green Highly Fractured Rhyolite - fractures brecciate core in small sections, black colored mineral on them.

26': Bottom of Hole

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-9

log says "highly fractured rhyolite", but core at 18' fractured weakly altered felsic tuff (total alteration $\lesssim$ 5% ser/chl), binoc done at 18'

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-9 Dip -45° Started 12/8/80 Elev.

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 12/8/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
16'	26'	10'	<1%	Py and speck sph	
	Bottom of Hole				

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-10 Dip -45° Started 12/9/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 12/16/80

See Sketch
SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0' Overburden

25' Felsic Tuff or Tuffaceous Limestone - very fine grained, ashy looking fragments, light and dark grey colored. Occassional volcanic fragments up to 1/2" in size. Light grey colored areas - matrix highly calcareous. Occassional fragment altered to chlorite and matrix shows minor sericite alteration. 38'-40' sphalerite closely associated with a calcareous vein. Minor mixing of two units near contact at 77'.

77' Black Graphitic Shale and Gritty Tuffaceous Sediment - black and dark grey, slightly graphitic shale interlayered with a light grey, fine grained grit with visible fragments of qtz. and shale. Matrix generally calcareous. Layers somewhat wavy, vary from 30°-70° to core axis. Contact not abrupt but mixes with rhyolite for about 10'.

117' Rhyolite Fragmental (Minor Massive Rhyolite) - Many irregular shaped, light grey and green colored, rhyolite fragments enclosed in a very dk. grey and black matrix. Some fragments appear layered, others with qtz. amygdules. Minor chl and ser wisps in matrix & some frags., 133'-142' minor sections of black siliceous mudstone, layers vary from 30° - 60° to core axis.

150' Welded Felsic Tuff - Very fine gr., only frags 1/4" visible, matrix lt & dk grey colored. Not layered, minor massive rhyolite.

171' Bottom of Hole

200'

250'

300'

350'

400'

Sample at 51' is massive, composed mostly of calcite grains with sericite around them, some large volcanic rock fragments and calcareous rock fragments, chlorite blebs, pyrrhotite grains, few qtz. eyes, and some felsic ash.

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-10

25 - 77	-	highly altered (sericitic) felsic tuff? or fragmental?, abundant sericitic alteration (> 50%), highly sericitic wispy (matrix?) containing abundant seritized feldspar (many lath shapes), lesser qtz and 10-20% altered volcanic rock frags, sericitic "matrix" may also be fine pyroclastic frags, core varies from weakly to strongly calcareous (as fragments?) from 31' down, very wispy looking core, difficult to tell matrix from frags, NOTE - core is locally broken up into large lapilli sized pieces (see core at 30', 35', and 39'), good pyrrhotite and pyrite mineralization, from 38'-40' sphalerite, binocs done at 30', 38.5', 51' and 54'
77 - 117	-	from core piece at 89': layered intermixed shale and calcareous greywacke (no binoc)
117 - 150	-	felsic tuffaceous lapilli fragmental, core at 140' contains abundant weakly altered rhyolite frags in a grey hard matrix, drill log notes minor sections (133'-142') of black siliceous siltstone - no samples in office, called "mudstone" in log, sample at 118' is fine welded felsic tuff, sample is not described in log, binocs done on core at 118' and 140'
150 - 171	-	fine felsic tuff with minor grit??, drill log says welded felsic tuff, matrix is either a weakly altered felsic tuff or also a possible rhyolite as fine grains are interlocking and look massive locally, matrix contains minor both gritty and felsic volcanic rock frags, plus minor massive to semi-massive sulphide grit sized frags, (not really sure what sample is) binoc sheet for sample at 168'

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-10 Dip -45° Started 12/9/80 Elev.

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 12/16/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
25	34	9'	3%-5%	Py & Po	Minor Chl & Ser
34	38	4'	2%-3%	Py & Po	Minor Chl & Ser
38	40	2'	1%-2%	Py, Po, & .2%-.3% Zn	Minor Chl & Ser
40	71	31'	2%-3%	Py & Po	
71	82	11'	3%-5%	Py & Po	Graphite
82	171	89'	1%-2%	Py & Po	Minor Chl & Ser
	Bottom of Hole				

J. S. Cummings, Inc.

DDH RMX-10 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide	SiO_2	$CaCO_3$
25 - 35	10'	None	0.012		None	Trace	11.8	39.09	14.13
35 - 45	10'	0.40	None	None	None	None	4.9	23.03	46.42
45 - 55	10'	None	None		None	None	6.2		
55 - 65	10'	None	0.006		0.3	None	4.0		
65 - 71	6'	None	None		0.3	None	6.5		
71 - 81	10'	None	None		0.4	Trace	8.0		

Bottom of Hole: 171'

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

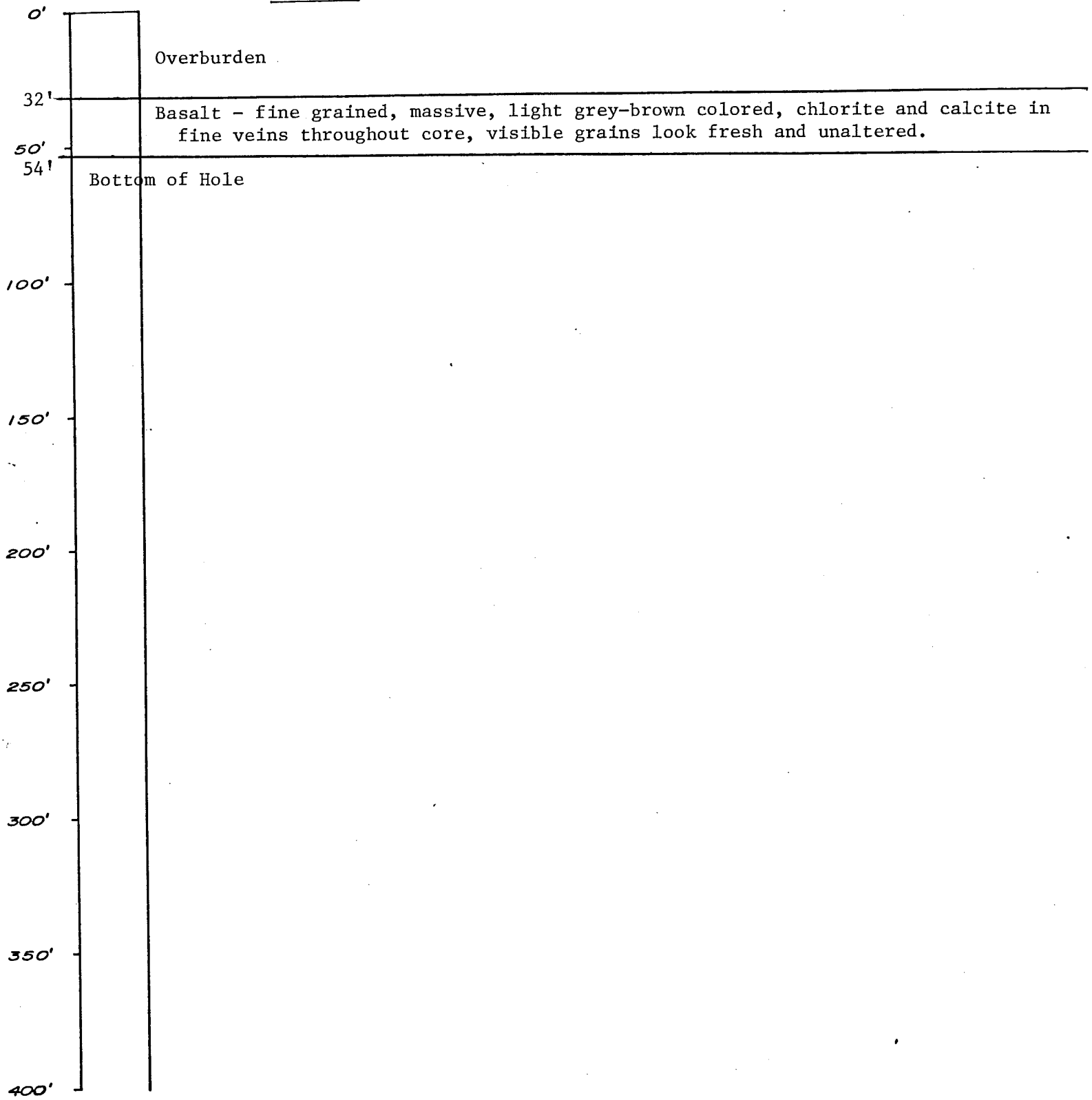
Project Ragged Mtn. Extension Hole no. RMX-11 Dip -45° Started 12/17/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag. Completed 12/18/80

See Sketch

SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype



C. Woodard
Feb., 1982

RE-EVALUATION

RMX-11

drill log okay - basalt, see binoc at 38'

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-11 Dip -45° Started 12/17/80 Elev.

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Ma Completed 12/18/80

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
32	54	22'	Trace	Py	Minor Chlorite
	Bottom	of Hole			

J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-12 Dip -45° Started 12/19/80 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 1/10/81

See Sketch
SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0' — Overburden

30' — Basalt - medium-fine grained, massive, greenish, fresh unaltered grains, minor calcareous veins and minor chlorite in veins and on fractures.

50'

71' — Andesite - Dacite - more siliceous than above unit, finer grained, purple hue to most of section. Ma-y veinlets of calcite, many veins up to 10" thick brecciated core, fragments and near veins are bleached and altered to chlorite, between fragments is calcite.

100'

150' — Interlayered Black Siltstone and Felsic Gritty Tuffs - layers vary in thickness from < 1/4" to 3", somewhat wavy but some good layers 60° to 75° to core axis. Tuffs, very fine grained with visible quartz and other fragments and disseminated sulphide. Siltstone, black or dark grey, very fine grained and soft.

180'

200'

207' — Felsic Gritty to Lapilli Agglomerate - not well layered but parallel alignment of sulphide and elongation of fragments ~50° - 60° to core axis. Matrix dark grey to black but becoming lighter and calcareous towards bottom of section. Minor sericite. Some high % sulphide fragments.

231'

250' — Gritty Felsic Quartz-Calcite Exhalite - fine grained, chalky white colored, unlayered only minor visible volcanic fragments ranging from gritty to lapilli in size. Thes and quartz are in an almost wholly matrix of calcite. Exactly the same rock as top unit in RMX-10. Disseminated and stringer py and po throughout. Minor chlorite and sericite alteration.

300' — Interlayered Black Siltstones and Felsic Gritty Tuffs - similar to unit from 180'-207' in this hole. Siltstones more siliceous than above. Py and Po in parallel bands or in layers. Layers finer (<1/2" thick) and 50° to 60° to core axis. 332'-338' - felsic lapilli agglomerate, chlorite in altered fragments and in matrix. Fragments elongated. NOTE: approximate contact as box containing actual contact dropped by drillers before logging.

317'

350' — Felsic Lapilli Agglomerate - many rhyolite and other felsic fragments in a black to dark grey somewhat siliceous matrix, fragments aligned in a parallel direction ±40° to core axis. Some fragments appear yellow and are slightly sericitized.

373' — Bottom of Hole

400'

NOTE: 207-317' is the limey tuff section with grit and lapilli fragments at the top. (TCW)

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-12

30 - 71 - basalt, examined core at 54', no binoc, log okay

71 - 150 - andesite-dacite (core ranges in composition), examined core at 95', andesite (or possible basalt), slightly harder, lighter colored and contains less mafic minerals than above unit, no binoc, examined core at 132'; dacite (or possible andesite?), core is identical to RMX-2 at 69' only without brecciation

180 - 207 - layered intermixed siltstone and weakly calcareous greywacke, very similar in appearance to RMX-10 at 89', examined core at 194', no binoc

207 - 231 - altered tuffaceous lapilli fragmental, core at 229' contains abundant obvious altered felsic lapilli volcanic frags, some with semi-massive to massive sulphide alteration, frags show parallel alignment in a matrix of dk. grey patches of fine siliceous grains plus fine white sericitic wisps, sericitic wisps are very similar to lapilli fragments in texture and may possibly be fine altered volcanic frags, examined core at 229' and did binoc, core at 216' (no binoc) very similar to 229', but contains lesser lapilli sized frags, these core pieces are somewhat similar to weakly calcareous portion of RMX-10 (25'-31'), the differences are: 1) presence grey, hard, siliceous material in core of RMX-12; and 2) abundance, clarity and layering of altered felsic lapilli volcanic frags; and 3) lesser total sericitic alteration in RMX-12

231 - 317 - highly sericitic and calcareous felsic tuff?, a fragmental?, examined core at 259', no binoc, core is identical to RMX-10, 25'-77', calcareous section from 31' down (see binoc for RMX-10 at 51'), as in RMX-10 at 51', this core is highly altered (sericite $>50\%$) and contains abundant calcite (as fragments?), sericitic "matrix", could be fine altered frags, contains 3-5% pyrrhotite and pyrite

317 - 350 - layered intermixed shale and greywacke, drill log says interlayered black siltstones and felsic gritty tuffs like 180' to 207' above, black siltstones referred to are probably shales and from core at 346', felsic gritty tuff referred to in log is probably a weakly tuffaceous greywacke, (binoc done at 346'), drill log also notes felsic lapilli agglomerate from 332' to 338', from description this is probably a felsic lapilli fragmental (need core in office)

350 - 373 - weakly altered felsic tuffaceous lapilli fragmental, as described in log, abundant white rhyolites and other felsic volcanic rock frags with varying degrees of chlorite-sericite alteration contained in a fine grey somewhat siliceous matrix, matrix also contains some grit sized altered felsic volcanic frags, all frags are weakly aligned and highly welded to matrix

RE-EVALUATION

D. Coles
February, 1982

RMX-12 (207'-231') - "Felsic Gritty to Lapilli Agglomerate" (upper part of limey tuff)

Hard black siliceous matrix	-	± 30%	
Calcite matrix	-	± 20%	
Quartz grit	-	± 15%	sub-rounded
Altered felsic grit	-	± 2%	sub-angular
Rhyolite	-	± 30%	sub-rounded
Black chert or rhyolite	-	± 3%	sub-angular

This rock looks like it is probably not a true pyroclastic. The chemical precipitate matrix (especially the calcite) tend to indicate that the fragments of volcanic rock were washed or blown? (is some pyroclastic nature) into a sedimentary basin.

$<1\%$ of this rock is made up of high sulphide clasts.

Matrix looks like sediment, not like infilling.

RMX-12 (332'-338') - Agglomerate Layer in Black S. Stone and Felsic Gritty Tuff

Matrix - white filament like material between fragments, purplish siliceous material and minor calcite (25% of rock)

Rhyolite frags and grit	-	± 35%	sub-rounded
Chloritized frags	-	± 15%	sub-rounded
Quartz grit	-	± 10%	anhedral
Feldspar grit	-	± 15%	anhedral

Fragments are aligned with their long axis parallel to each other.

Appears more pyroclastic than clastic. There is fine quartz and feldspar ash that was not noted in 207'-231'. There is also the absence of "sedimentary matrix".

RE-EVALUATION

D. Coles
February, 1982

RMX-12 (350'-373')

Matrix - hard siliceous material and chlorite - ± 35%

Rhyolite fragments	-	60% sub-angular to angular
Quartz grit	-	<1% sub-hedral to anhedral
Feldspar grit		5% anhedral or sub-rounded

This unit is probably pyroclastic, the fragments are generally angular and a nondetrital matrix with feldsapr and quartz ash is present. Mudstone layers were found at 362'-363' and at 372' tending to make a pyroclastic origin less than definite.

The felsic gritty tuffs found with mudstones within this hole consist of rounded very fine grit. They are probably true gritty tuffs (some mudstone in matrix). Sometimes very little matrix.

J.S. Cummings Inc.

C. Mattson

SULPHIDE LOG

Project Ragged Mtn. Extension Hole no. RMX-12 Dip -45° Started 12/19/80 Elev.

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 1/10/81

SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
30	180	150'	< 1%	Py, Po, & Flecks Chpy at 51' and 87'	Minor Chlorite
180	207	27'	2%-3%	Py and Po	
207	231	34'	5%-7%	Py and Po	Minor Sericite
231	315	84'	2%-3%	Py and Po	Minor Chl & Ser
315	338	23'	3%-5%	Py and Po	Minor Chl & Ser
338	373	35'	1%-2%	Py and Po	Minor Sericite
	Bottom of Hole				

J. S. Cummings, Inc.

DDH RMX-12 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide
207 - 217	10'	Trace	None		None	None	11.1
217 - 227	10'	0.10	0.006		None	None	9.2
227 - 237	10'	0.05	0.037		None	None	7.7
315 - 325	10'	Trace	None		0.4	None	5.5
325 - 338	13'	None	None		0.4	None	5.2

Bottom of Hole: 373'

APPALACHIAN RESOURCES, INC.

C. E. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Ext. **Hole no.** RMX-13 **Dip** -45° **Started** 6/22/82 **Elev.** ____

Job no. 272.2 **Township** T9-R10 **Coord.** 7890N 6950E **Direction** 336° Mag **Completed** 6/29/82

Lithotype

0'
13' Overburden

Interlayered Shale and Greywacke - black and grey calcareous shale interlayered with a calcareous matrix, fine grained greywacke, some graphite along fracture surfaces some thin layers with high % pyrite, layers vary from 1' to 1/4" in thickness and from 5°-80° to core asix (at 43' layering ∠ is 80° and at 45' the layering ∠ is 5°) changing very quickly

50'

98'
100' Felsic Lapilli Fragmental - some fractured rhyolite frags, other dark colored siliceous fragments, matrix dark and siliceous, makes frags hard to see, some calcareous blebs, some frags contain sulphide and the rest stringer and disseminated

115' Altered Felsic Lapilli Fragmental - frags of rhyolite, quartz and some altered exhalite frags, sericite and some chlorite alteration in patches (matrix) or altered frags, some wavy tuffaceous layering visible, at 117' is 35° to core axis and at 182' is 50° to core axis, lost 10' becoming less altered

150'

184'
190' Dacite (see 213'-256') - Calcite and Po and Py brecciate this section

196.5' Same as last 10' of 115'-184'

200' Dacite (see 213'-256') - Calcite veins and amygdules

203' Contact between Dacite and Alt. Felsic Lapilli Fragmental

213' Dacite - grey-green colored, massive to fractured and broken, calcite amygdules in the massive sections and calcite veins in the fractured section, last 10' picking up graphite on fractures

250'
256' Black Shale and Greywacke - sections calcareous like 13'-98', graphite on fractures, not well layered, some broken greywacke layers at 256', sulphide in layers

260' Altered Felsic Lapilli Fragmental - same as 115'-184', except contains less total alteration, less sulphide, some wavy tuffaceous layers, at 317' - 50° to core axis, at 319' - 10° to core axis

300'

320' Black and Grey Calcareous Shale - graphite on fractures, some layers almost down the core axis

330' Altered Felsic Lapilli Fragmental - same at 260'-320'

349'
350' Bottom of Hole

400'

ACID TESTS

Depth	Actual ∠	Corrected ∠
200'	53°	47°
340'	53°	47°

APPALACHIAN RESOURCES, INC.

C. E. Mattson

SULPHIDE LOG

Project Ragged Mtn. Ext. Hole no. RMX-13 Dip -45° Started 6/22/82 Elev. _____

Job no. 272.2 Township T9-R10 Coord. 7890N 6950E Direction 336° Mag. Completed 6/29/82

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
13'	92'	79'	1%	Py & Po	
92'	93'	1'	3%-5%	Py & Po	
93'	98'	5'	1%	Py & Po	
98'	115'	17'	5%-7%		
115'	186'	71'	3%-5%	Zn @ 117', Py & Po	Ser. & Chl.
186'	189'	3'	7%-10%	Cu @ 186', Py	
189'	256'	67'	3%-5%		Ser. & Chl.
256'	260'	4'	5%		
260'	349'	89'	<2%		Ser. & Chl.
	Bottom of Hole				

APPALACHIAN RESOURCES, INC.
C. E. Mattson

Resistance and Magnetic Log

Project Ragged Mtn. Ext. Hole no. RMX-13 Length of hole 349'

Job no. 272.2 Township T9-R10

Depth (from collar)	Resistivity (ohms)	Magnetics (+, −)
13' - 184'	occasional fracture surface	
	with graphite kicks	− Po
184' - 349'	occasional fracture surface	
	with graphite kicks	+ Po

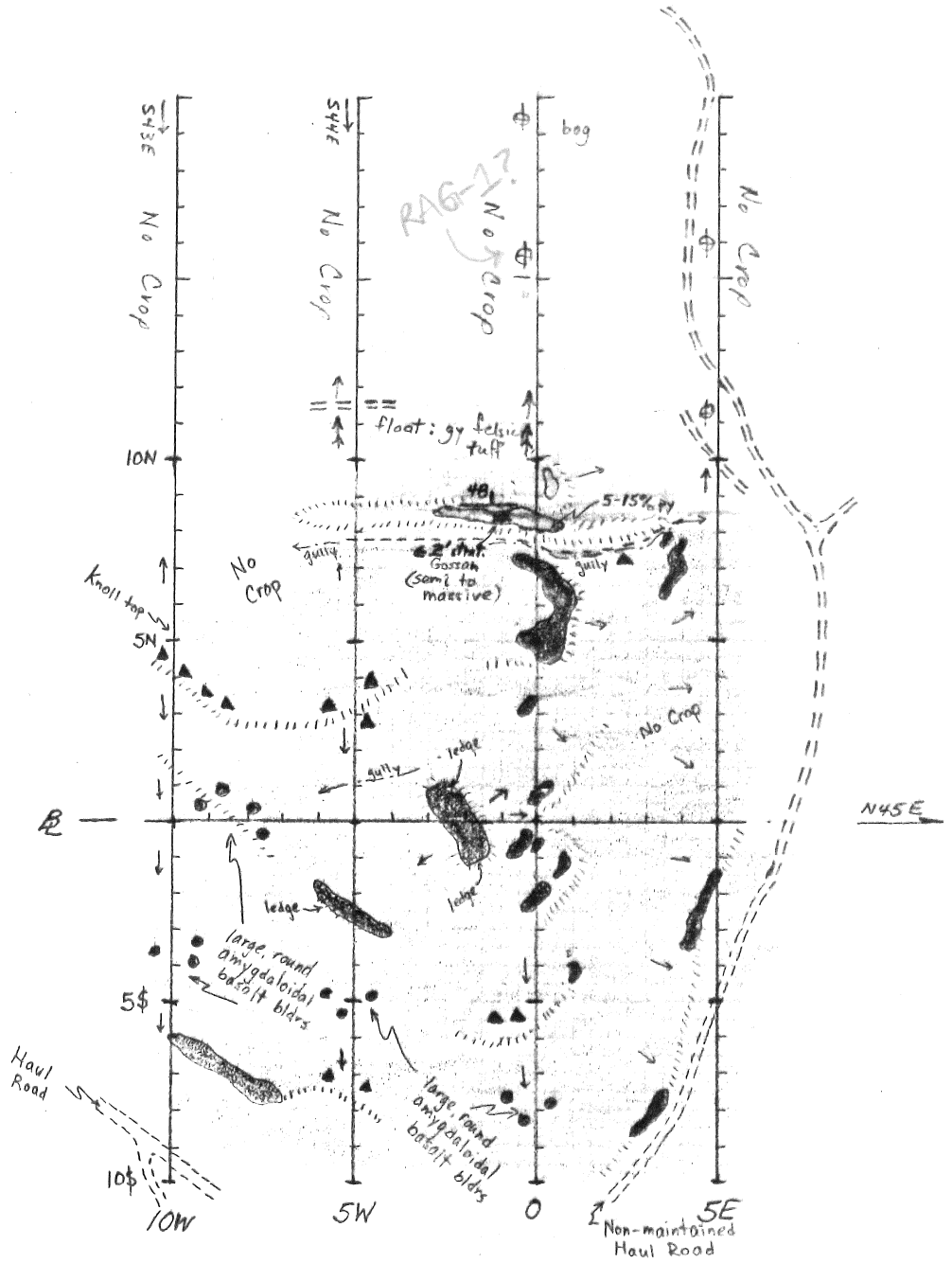
APPALACHIAN RESOURCES, INC.

DDH RMX-13- (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide	Ni
100-110	10'	None	None	None	None	None	5.3	None
159-169	10'	None	None	None	None	None	2.1	None

Bottom of Hole: 349'

RAGGED MTN. AREA - GRID 8 - T 9, R10 - MAINE



1" = 500'

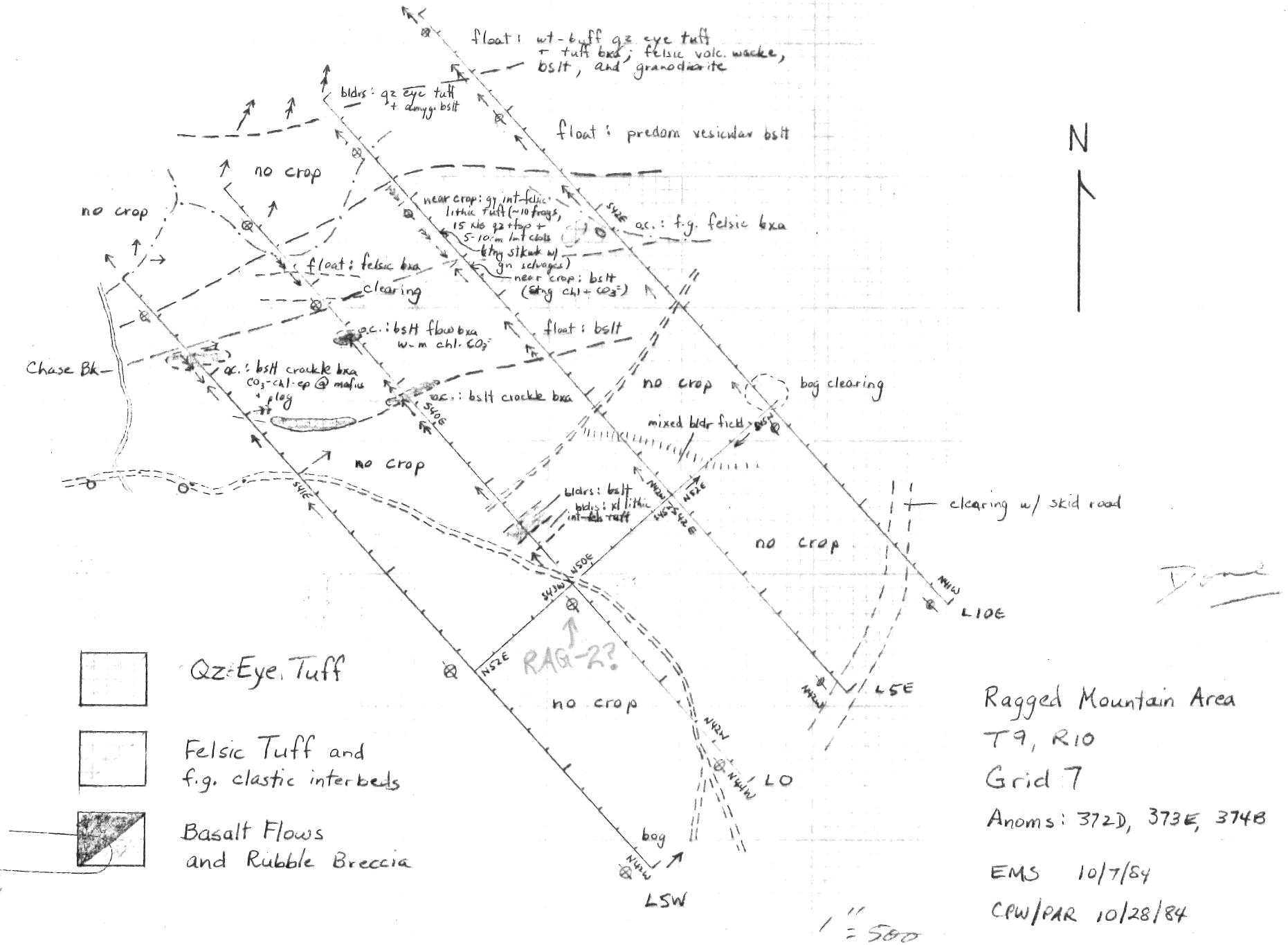
EXPLANATION:

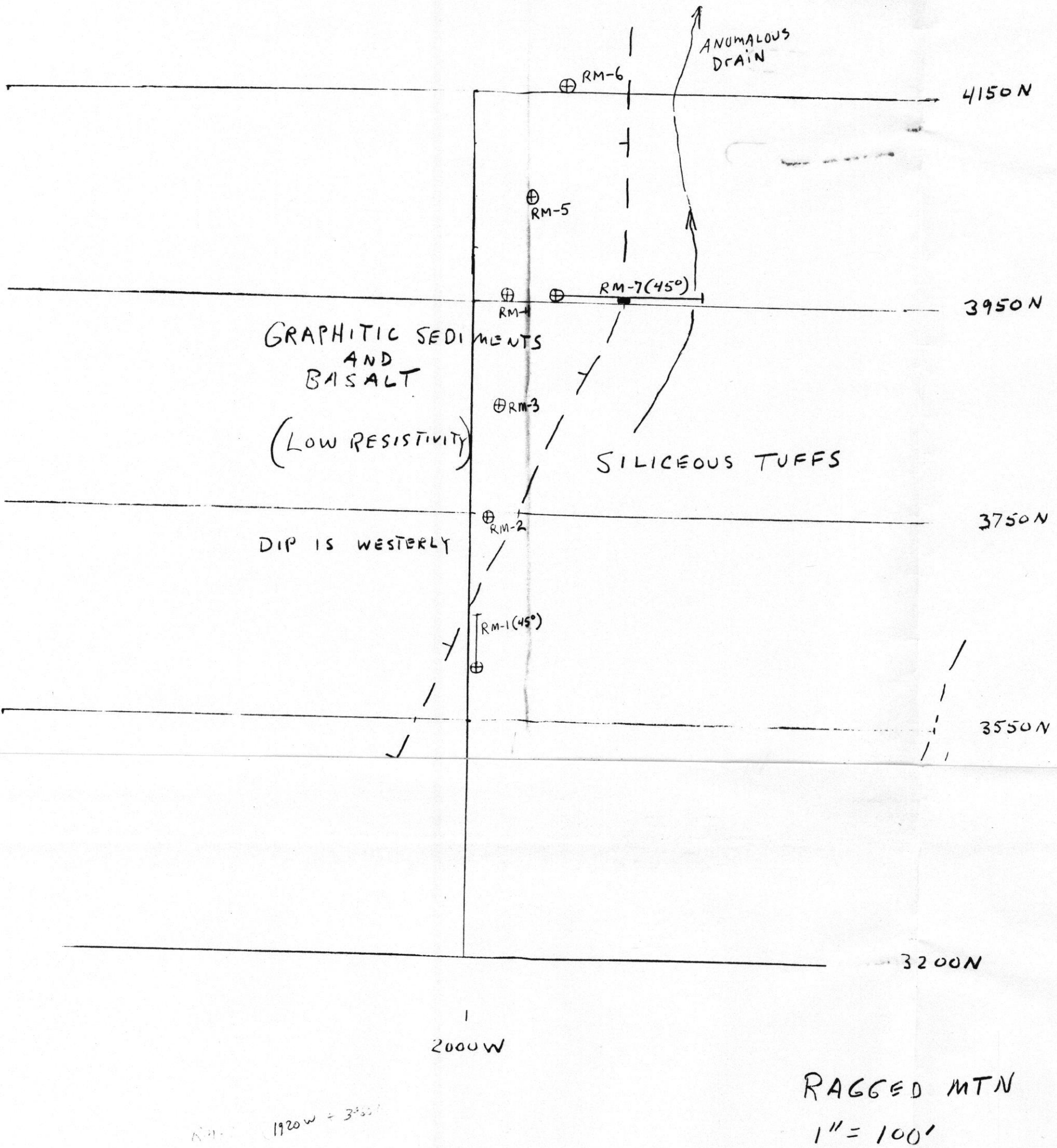
- SILICEOUS FELSIC TUFF — lt. to med. gy., v.f.g. to f.g., massive; some sl. stockworks; some feld. xtal tuff; sl. chlor.
- INTERMEDIATE TUFF — dacite to rhyodacite; sl. to mod. chlor.; non to sl. siliceous; locally crse. (≤0.4") qtz-eye & feld. frags. + xtals.
- BASALT FLOW/FLOW BRECC. — med. to dk. gy-gn; v.f.g. to f.g.; chlor.; locally hematitic; local epidote & CO_3^{--}; commonly amygdaloidal; non-magnetic
- ΔΔ FLOAT
- → = downhill direction
- ////// = ridge line

SCALE: 1" = 500'

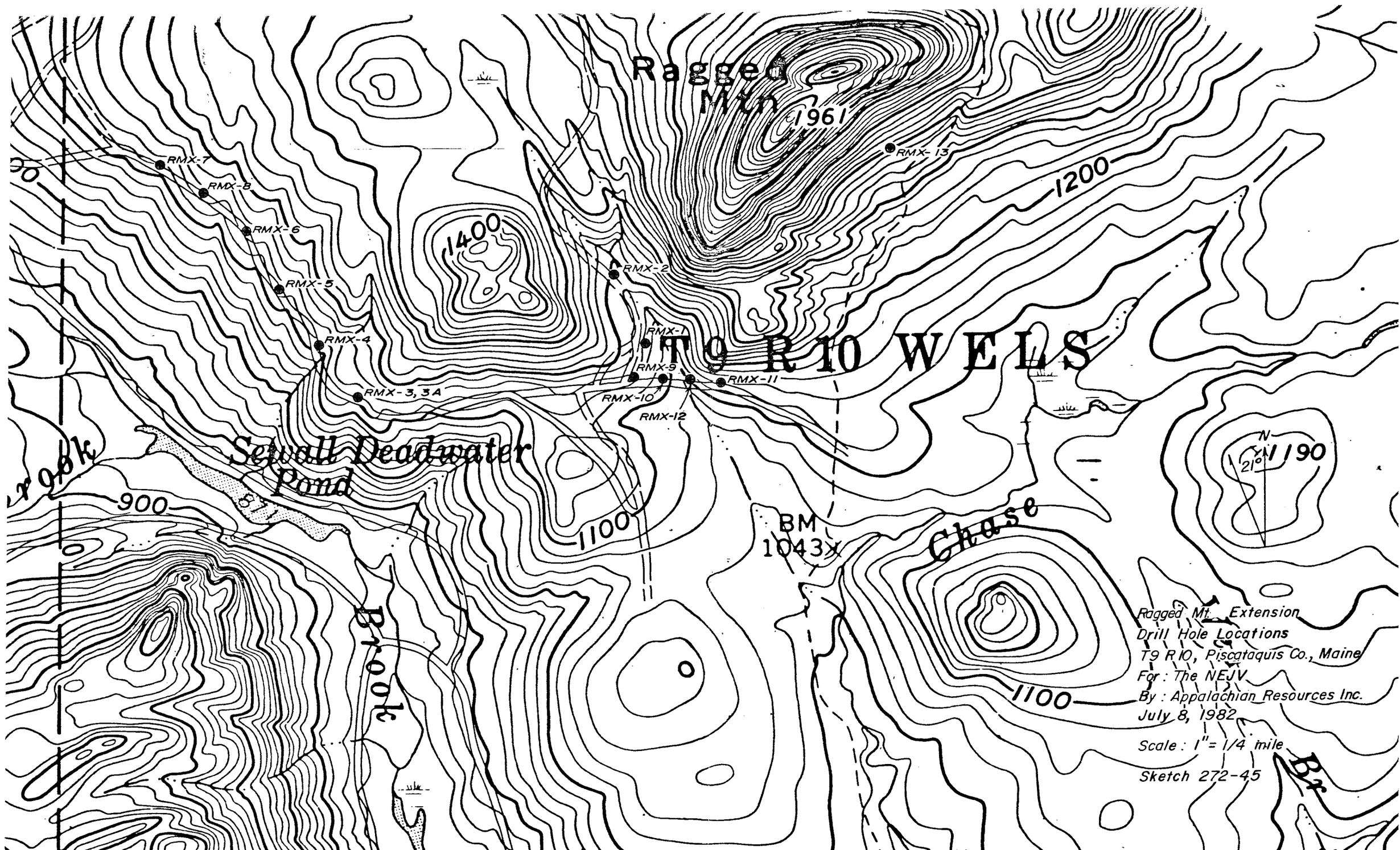
Anom. 372 C located at B-00.

R.A.K. + C.P.W.
10/1/84
10/2/84

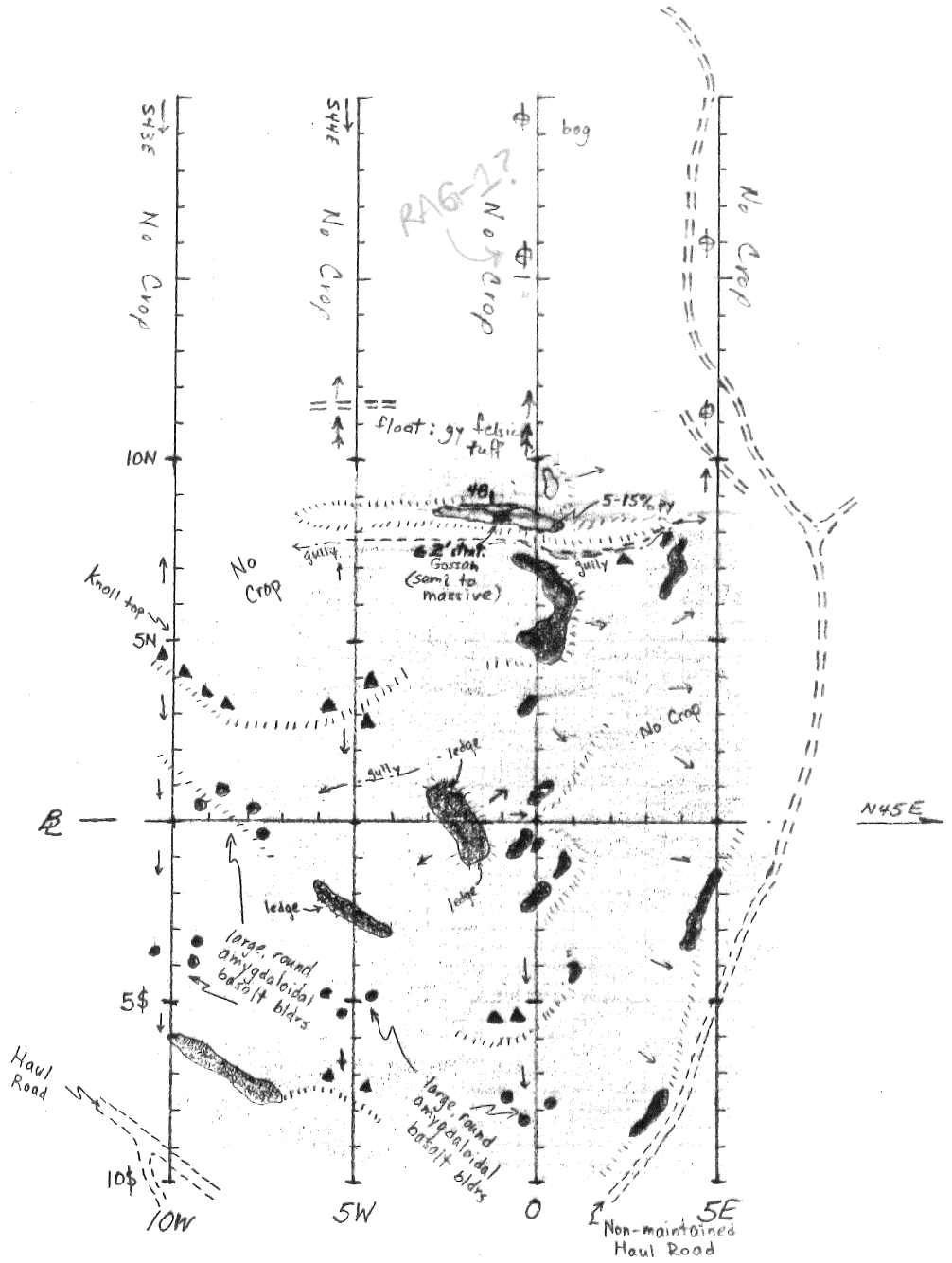

float: wt-buff qz eye tuff
± tuff bxa; felsic volc. wacke, bslt, and granodiorite
bldrs: qz eye tuff + dmyg. bslt
float: predom vesicular bslt
no crop
no crop
near crop: gy int-felsic lithic tuff (~10 frags, 15 vfg qz + fsp + 5-10% int clasts (stng silicif w/ gn schlieren)
near crop: bslt (stng chl + CO3=)
ac.: f.g. felsic bxa
float: felsic bxa
clearing
ac.: bslt flow bxa w-m chl. CO3=
float: bslt
Chase Bk
ac.: bslt crackle bxa CO3-chl-ep @ mafics + plag
ac.: bslt crackle bxa
no crop
bog clearing
mixed bldr field
no crop
bldrs: bslt
bldrs: xl lithic int-felsic tuff
clearing w/ skid road
no crop
L10E
RAG-2?
no crop
L5E
L0
bog
L5W
N
Qz-Eye Tuff
Felsic Tuff and f.g. clastic interbeds
Basalt Flows and Rubble Breccia
Ragged Mountain Area
T9, R10
Grid 7
Anoms: 372D, 373E, 374B
EMS 10/7/84
CPW/PAR 10/28/84
1" = 500'


ANOMALOUS DRAIN
RM-6
4150N
RM-5
RM-7(45°)
RM-4
3950N
GRAPHITIC SEDIMENTS AND BASALT
(LOW RESISTIVITY)
RM-3
SILICEOUS TUFFS
RM-2
3750N
DIP IS WESTERLY
RM-1(45°)
3550N
3200N
2000W
1920W + 3[illegible]
N
RAGGED MTN
1" = 100'

272-8


Ragged Mtn
1961
RMX-13
1200
1400
RMX-7
RMX-8
RMX-6
RMX-5
RMX-4
RMX-3, 3A
RMX-2
RMX-1
RMX-9
RMX-10
RMX-11
RMX-12
T9 R10 WELS
Sewall Deadwater Pond
900
1100
BM
1043
Chase
N
21°
Ragged Mt. Extension
Drill Hole Locations
T9 R10, Piscataquis Co., Maine
For : The NEJV
By : Appalachian Resources Inc.
July 8, 1982
Scale : 1" = 1/4 mile
Sketch 272-45

RAGGED MTN. AREA - GRID 8 - T 9, R10 - MAINE



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10/1/84
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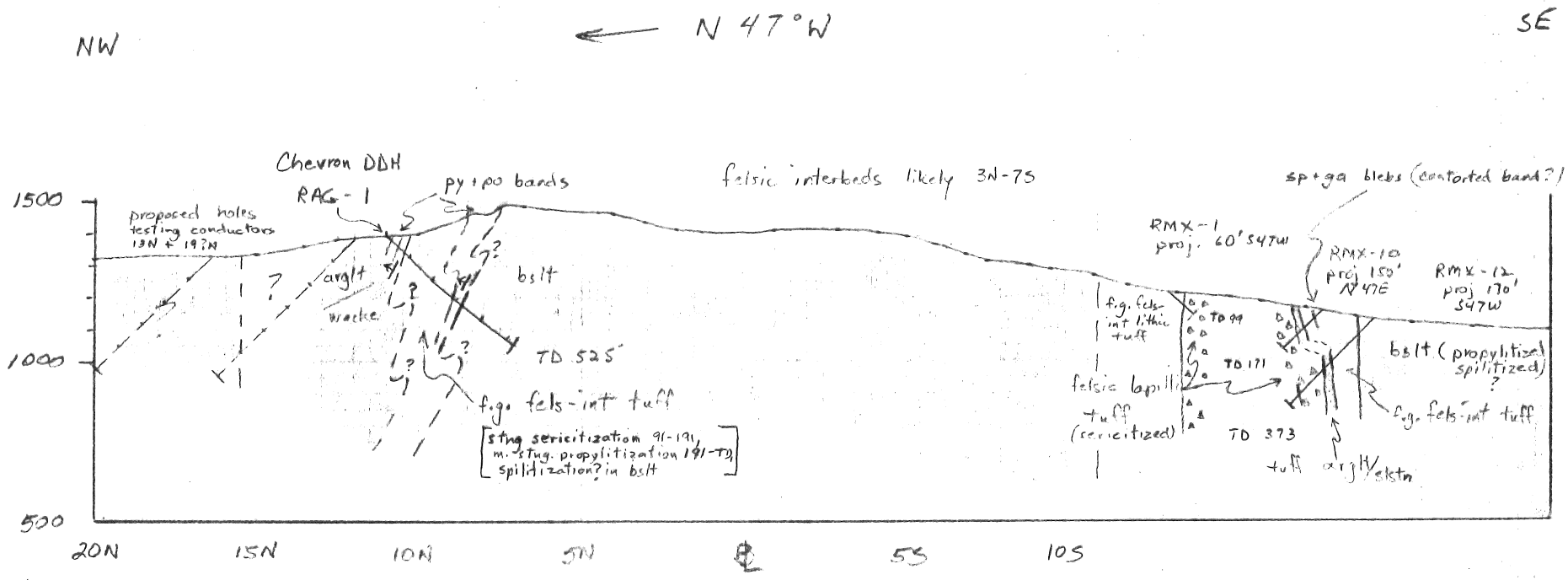


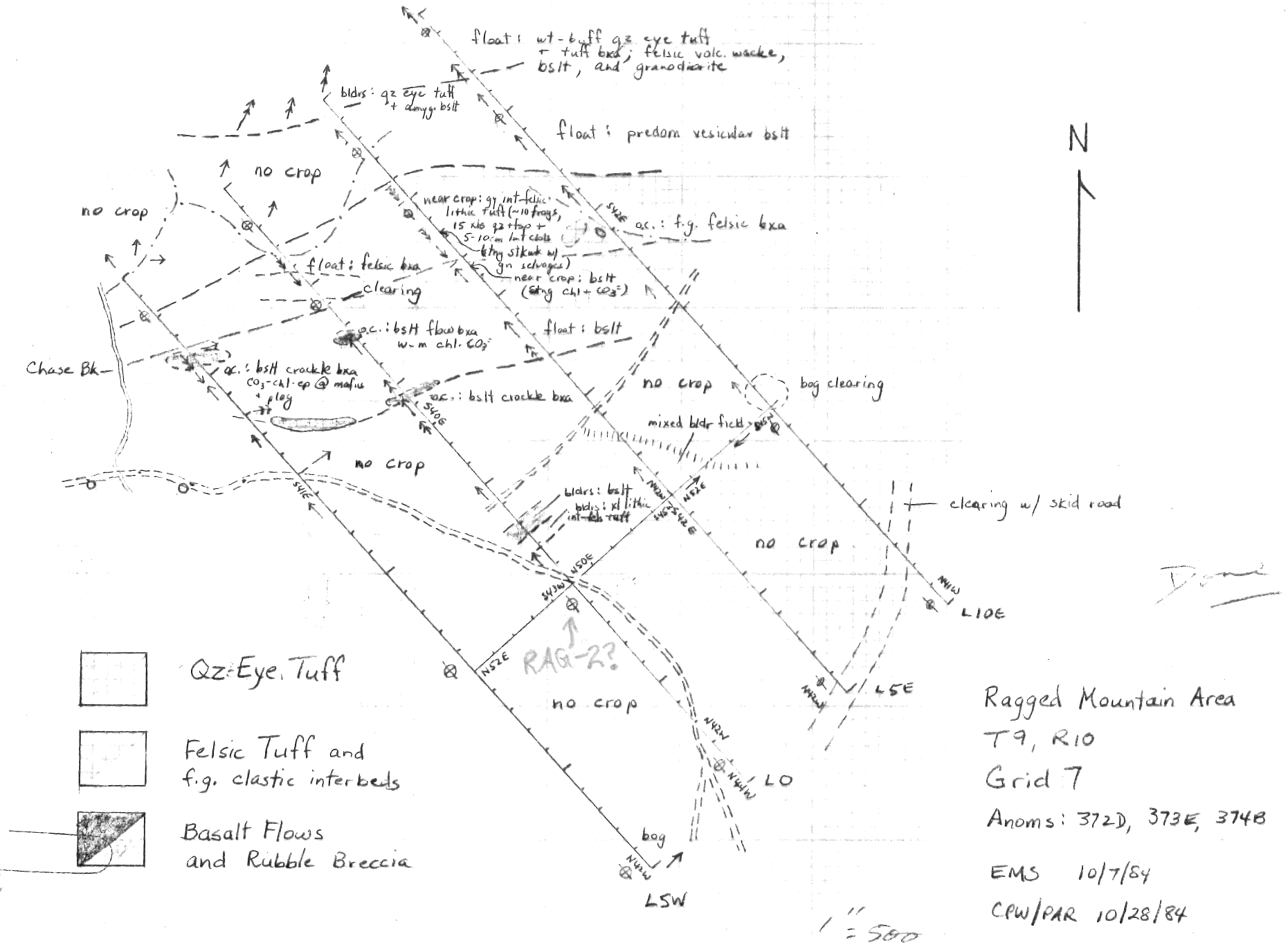
Cross Section Along Line 0, Grid 8

T9 R10

Southwest End of Ragged Mtn.

1 in = 500 ft

EMS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Chase Bk
ac.: bslt crackle bxa CO3-chl-ep @ mafics + plag
ac.: bslt crackle bxa
no crop
bog clearing
mixed bldr field
no crop
bldrs: bslt
bldrs: xl lithic int-felsic tuff
clearing w/ skid road
no crop
L10E
RAG-2?
no crop
L5E
L0
bog
L5W
N
Qz-Eye Tuff
Felsic Tuff and f.g. clastic interbeds
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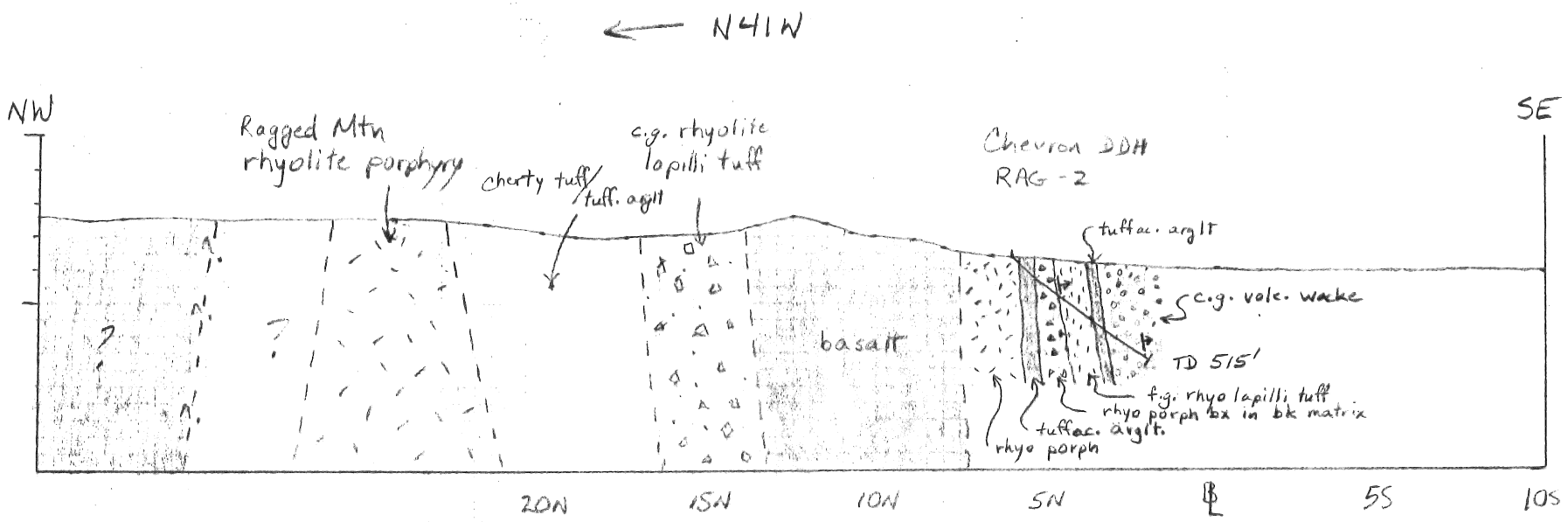

Cross Section Along Line 0, Grid 7

T9 R10

Southwest End of Ragged Mtn.